

HOUSE & GARDEN

AN ILLUSTRATED MONTHLY MAGAZINE
DEVOTED TO THE HOME, ITS PLANNING,
BUILDING, FURNISHING AND DECORATING,
AND TO THE PLANTING AND
CARE OF THE GARDEN AND GROUNDS

VOLUME XXI

January, 1912, to June, 1912, inclusive



127036
4/4/13

NEW YORK
McBRIDE, NAST & COMPANY
1912

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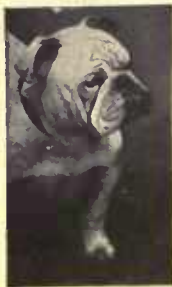
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The Case for Hot Air Heating

(Continued from page 25.)

system must be a more able heating engineer than the average contractor. Men of this class always include in their estimates an item to cover cost of proper planning of the furnace heating system and consequently are never low bidders and never secure contracts on a purely competitive basis. The competent warm air furnace heating contractor is entitled to his fee for engineering work, as the architect does not possess the knowledge required to properly design a warm air furnace heating and ventilating system when he plans the building.

Ordinarily, the only safe plan for the prospective purchaser of a heating system to follow is to demand specifications from all furnace heating contractors who compete for the contract and, after comparing specifications, to award the contract to the reputable bidder whose specifications are most complete, regardless of price.

For the protection of the public; reputable furnace heating contractors and the reputation of their furnaces of merit, forty warm air furnace manufacturers have had prepared a complete standard system for installing warm air furnace heating and ventilating systems in residences, under the title—"Federal System of Heating and Ventilation," together with standard specification and proposal blanks to be used by heating contractors.

When the "Federal System of Heating and Ventilation" is followed the house owner will know that the furnace used is of proper capacity to heat his house, because ratings of furnaces under the Federal System, are not under the control of the manufacturers of the furnaces, but are based on impartial tests of each furnace made by disinterested persons. He will be further safeguarded by the fact that only furnaces of substantial and durable construction are rated under the Federal System. Furthermore, when a furnace heating and ventilating plant is installed in accordance with the rules and directions of the Federal System, the entire heating and ventilating system is backed, not only by the guarantee of the heating contractor, but also by the combined guarantees of the furnace manufacturers who stand sponsors for the "Federal System of Heating and Ventilation."

In closing I would impress on the reader that all the glowing descriptions of direct systems of heating cannot change the fact that most health officers in America are united in declaring direct radiation systems of heating a menace to the health of the communities in which they are installed.

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How nice—dust not settling in hair, lips, nostrils; still worse, tasting, breathing it; nor on lace curtains, furniture, ornaments. **LIKE MAGIC**, dust, dirt, germs disappear in the Home Vacuum Cleaner. Cleans carpets, rugs, matings, etc., on floor. **DOES NOT LOOK LIKE A BROOM**, though it does the work a broom cannot do. Ornamental. 60,000 sent to families. **"HOUSE SMELLS MUCH SWEETER,"** no dust to fly around room." Mrs. David Bricker, Pa. "Dust came out of carpet like magic; I did not have to breathe any of it." Miss Isabella Beaton, O. "Never used a broom on my carpets since receiving Cleaner; I will have no more taking up of rugs and carpets." Miss Lulu Reinisch, Kans. **"WORTH ITS WEIGHT IN GOLD** to the woman who does her own work." Emily F. Smith, Kansas. Easily carried—9 lbs.

\$8.50. Not sold in stores. Sent anywhere. Write for description. **AGENTS**—go into any home; sprinkle fine chalk; take it up like magic. Let lady try it; she will keep it. Sell 8 out of 10. "Sold 15 in 4 hours," F. A. White, Ill. "Sold 5 Saturday, my first attempt," C. E. Goff, Mo. "Was out one evening, sold 6," Geo. A. Smith, O. F. S. Hoppes, La., ordered 50 and says: "More orders coming." A woman made \$1500 selling Cleaners. Be a money maker. **FREE SAMPLE** offer. Write today.

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LILY of VALLEY

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You can have them every day just as fine.

We send pips which will bloom in 3-4 weeks.

You can **SEE** them grow day by day.

We send 6 pips, and fiber to grow in . . . \$3.35
12 pips, and fiber to grow in60
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DELIVERY INCLUDED

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tween indirect steam heating, indirect hot water heating and a furnace heating and ventilating system, is a matter to be decided by the individual.

If he can afford to pay double the cost of a furnace heating and ventilating system and can afford to buy 50 to 100 per cent. more coal per year to heat his house, with no difference in healthfulness and durability and with cumbersomeness and bulk added to the increased cost, a man should buy an indirect steam or an indirect hot water system of heating.

If he wishes to secure a heating and ventilating system which will provide healthful ventilation, with a moderate first cost, moderate fuel consumption, which is durable, compact and easy to operate, he should choose the ideal system for heating and ventilating residences—**THE WARM-AIR FURNACE SYSTEM.**

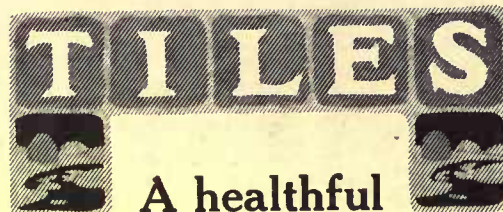
Remodel an Old House

(Continued from page 15)

low the little white gate, lies a garden, reached through an arched opening in a low stone wall. Its prim little paths mark off four rectangles, each bordered with box and filled with a medley of things—zinnias and the fading stalks of German iris, tiny yellow button chysanthemums, a screen of tall dahlias along the side towards the road, a clump of Madonna lilies, long since ripening their seed pods, mignonette and mourning bride, pansies and ageratum. With what yearning despair the last owner of that garden must have left it! It calls mutely to us for aid in freeing itself from the weeds that are daily growing more arrogant. It begs for a master who will understand it and its past, who will nurture it back to its former glory.

And the house—it sounds no note of vainglorious pride like its *nouveau riche* upstart relative back on that sun-parched suburban boulevard. It looks down upon us with some misgivings, some feeling of dread lest we in our ignorance play havoc with its body and soul. It pleads with us to try to understand it, to try to realize that while a ruthless contractor can only too easily make of it a crippled hybrid and a nightmare to the passerby, one with respect for its mature dignity and a sympathetic appreciation of its shortcomings may adapt it readily to the changed life of to-day.

The reclamation will offer no great difficulties—only a deep creative joy to him who will really strive to know the personality of the old house. It is not hard to find carpenters and masons who will respect the craftsmanship of the early builders and strive to make their own work as good. The desirable combination of many small rooms into fewer large ones presents no structural difficulties that cannot be readily overcome. A little mason work on the old fireplaces, a little plastering, a lot of good white paint, a thorough disinfecting that will leave be-



A healthful wholesome laundry

A floor of wood or any other material that absorbs dampness or grease is not merely unsightly, it is unwholesome. A laundry, where your clothes are washed, should be clean beyond suspicion.

Nothing will give the kind of cleanliness that can be constantly re-cleaned like tile.

Don't plan your house, let alone building it, before you have read our booklet, "Tiles for the Kitchen and Laundry," and our other booklets: "Tile for the Bathroom," "Tiles for Fireplaces," "Tiles on the Porch Floor," which we send free to home builders.

The Associated Tile Manufacturers
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SUCCESSFUL INCUBATION AND BROODING

Big hatches are the essentials to money-making chick raising. Do you know how some incubators secure the maximum hatches and at the minimum cost? How they make artificial incubation on a large scale so successful, so profitable? It is by knowing the laws of nature and how to apply them in an artificial way. It is by properly caring for every minute detail in a scientific manner. An incubator not built with full knowledge of the principles that effect the awakening of life in the egg and control it until the period of hatching, is not dependable. It cannot prove a profitable investment.

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are of unparalleled success because they supply the conditions demanded by nature.

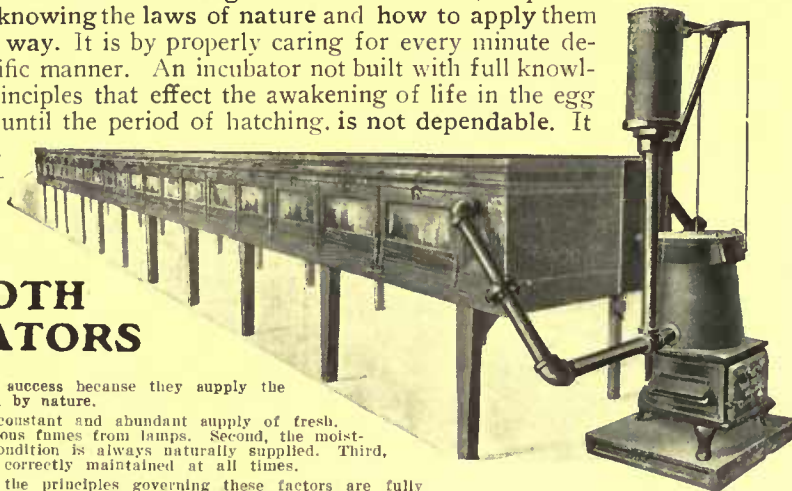
First, there is a constant and abundant supply of fresh, pure air—no poisonous fumes from lamps. Second, the moisture or humidity condition is always naturally supplied. Third, the temperature is correctly maintained at all times.

The application of the principles governing these factors are fully explained in our book, "Fact and Argument." It is both informative and convincing of Hall merit. Write for it to-day.

Incubators from 1,200 egg capacity to 20,100 egg capacity!

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Guaranteed to Reach You in Good Condition

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Maplecroft S. C. Rhode Island Reds Won New York 1911, 5th Cock, 4th Cockerel, 4th and 5th Pens and 1st, 4th, 5th PULLET, also Shape Special on Pullet. High class utility layers and choice breeding stock for sale. J. G. Dutcher, Prop. For circular, address: Maplecroft Farms, Pawling, N. Y.



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They lay like slot machines. My birds have won at Madison Square, Pittsburg, Cleveland, Buffalo, Chicago and other large shows. New catalog free.

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A BIG STRONG STRAIN of heavy Layers. Raised under absolutely sanitary conditions. Producers of LARGE WHITE EGGS.

Prices Reasonable

Everett R. Tomlinson, Batavia, N. Y.

hind no trace of life or suspicion of disease, the best plumbing and heating, a water supply above reproach, a restoration of old hardware and the introduction of lighting fixtures that will not clash—these seem but little to give for a home that we may be proud to have our children call by that name.

If you had chosen to build that new house on the suburban boulevard, with fifty feet frontage and neighbors jammed up against your side windows, with a few two-year-old trees that may give some shade in fifteen years—if they don't die, with new plaster walls that crack and new woodwork that gapes at the joints, with doors that swell and have to be planed off to make them latch, with a prospect of being able to work that claybank into a properly barbered lawn inside of five years, perhaps—if you had so chosen can you by any stretch of the imagination picture your children bringing their children back to point out with pride "the old homestead"?

I do not know why I am arguing for the reclamation of these homes built by our forefathers as sturdily and beautifully as only they knew how to build them. Here I am advocating the general adoption of something that only a handful of people can possibly secure. For the old places are becoming very scarce. The abandoned farmhouse is no longer abandoned when it is within any reasonable distance of anywhere. To those, therefore, who have had the eye of the seer and have secured the desire of their hearts, my congratulations; to those who may yet discover the few remaining treasures, I would say, make haste; and to those who are compelled to live in a new house, I extend my deepest sympathy.

Paneling and Some of Its Shortcuts

(Continued from page 21)

composition boards as a base surface. When wood is used throughout the available material will take care of this point.

Some inquiring designer discovered the fact in comparatively recent times that stock panel doors—of four or five horizontal panels between top and bottom rails—are cheaper in some localities than an equal area of built-to-order paneling. A wainscoting with a height equal to the door's width may readily be made by laying these stock doors end to end on the floor, covering the vertical joints with narrow strips and the upper edge with a crown molding. It is perhaps needless to say that in doing this one starts by laying a door in the middle of each wall surface to be covered, and then works away from either end so as to make the whole symmetrical. As the bottom rail of a door is always wider than the top and side rails it will have to be sawed off to match.

Interior paneling is not ordinarily a task to be undertaken lightly by any but a home craftsman of some experience and with a

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Hinges

When you Build—

use the hinge that will not creak or bind, that needs no oil, and whose pin does not work up.

Then your doors will open smoothly and noiselessly.

Insist on Stanley's Hinges in your specifications.

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American Branch House, 142 N. 13th Street
LOUIS BERGER, Mgr. PHILADELPHIA, PA.

large capacity for taking pains. To such the work will be a real pleasure. To others the employment of a local carpenter who will follow one of the short cuts outlined need be a matter of comparatively little expense and will surely bring surprisingly satisfactory results.

The Tudor House for America

(Continued from page 18)

first blush one would say this house could look well only in that luxuriant setting, but I can imagine it almost equally lovely and at home in some of the reaches of the Maine coast, set amid cedar and fir, on the hillside, springs feeding its fountains, and its outlook over the sea. At first blush a Virginian red brick house might seem out of place in California, but I can imagine one set in the midst of an orchard, or surrounded by formal gardens, looking as homelike as it does in England, and as much in keeping with its surroundings.

Reconnoitering for a Building
Site

(Continued from page 23)

window seats, sideboard, kitchen cabinet, sets of drawers in the bedrooms, mirrors in the bedroom doors.

We are fortunate in our neighborhood in that it seems possible to find water almost any place, but a short way from the surface. There will be a cistern in addition to the well, for droughts are not unknown, and a generous supply of water is never amiss when one gardens. A small engine will be needed for many things about the place, one of them being to force water through pipes laid to the gardens.

To the left of the house, in front, we plan to have a tennis court; in front the gardens, and sloping to the southwest, the orchard, vineyard and small fruits, with the chicken houses and runs farther down.

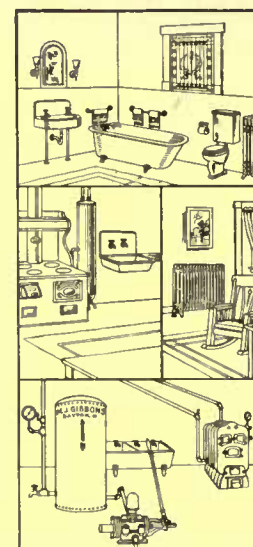
There are old apple trees here and there, some all foliage, others with boughs dragging on the ground from the weight of a multitude of small apples. These we hope to bring into bearing condition by proper treatment. Both the Agricultural Department and the experiment stations of the State have been very helpful with directions and suggestions concerning this and many other matters about which we went to them for advice.

There are many small cedars scattered among the larger trees and not thriving because of too much shade. These we shall presently transplant to grow about a tiny spring-fed pool on the slope. Some day we shall have a little water garden in the woods, where there is another and larger spring.

Most of our plans can be worked out only on paper as yet, but in the woods we have actually begun work, felling dead trees, thinning out where they grow too closely or are too much overshadowed to thrive, and already our place is improving.

Running Water in your home or summer cottage \$42

Complete Hot Water and Steam Heating Plants \$120 up



Water supply systems operated by hand, electric motors or gasoline engines.

This complete bathroom outfit for \$38.96 includes everything necessary to a high-class equipment.

HEATING PLANTS—SAVE \$100 TO \$250 on a modern heating system. Steam heating plants \$120 up. Hot water plants \$140 up.

Lighting Plants—Complete electric plant, including gasoline engine, dynamo, switchboard and storage battery.

Special Free Plans with every water, heating or lighting plant.

This big free catalog shows thousands of bargains—gasoline engines, Farm Trunks and Pumps, Hydraulic Rams, Pipe, Valves, Gas and Electric Fixtures. Buy from us and save 50 per cent.

We have most complete line of guaranteed plumbing, heating, lighting goods in U. S.

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Book and calendar for 1912 contains 200 pages, 72 varieties pure bred, 62 colored plates. Many other illustrations, descriptions, incubators and brooders. Low prices on all stock eggs. How to raise and make hens lay. Get my plans. They all say it's great—this book—only 15 cents.
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Same Good Youngsters now for sale, \$1.00 up
Elm Cove Rabbitry, Great Neck, L. I.



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utilizes the heat; warms and ventilates both lower and upper rooms. A compact, simple heating system.

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The house is 28 inches high, substantially constructed throughout and always gets the martins. It may be purchased at cost by bird lovers anywhere for \$11.00 f. o. b. Chicago. Correspondence solicited.

I also have manufactured for me a beautiful, unique hanging wren house, which is guaranteed to attract the wrens, and which I sell for \$5.00

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901 Association Building
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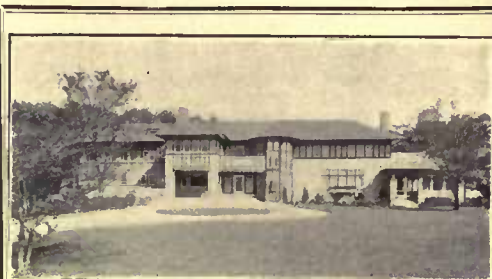
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Has the keyhole in the knob, where it cannot be missed.

Unexcelled for entrance doors of fine homes.

Book O K 15 tells all about it.

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Successors
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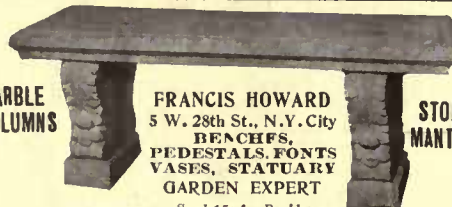
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Very truly yours,

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Ask for Catalogue and Mr. Cruikshank's second letter 9 years later

GLOBE VENTILATOR CO.
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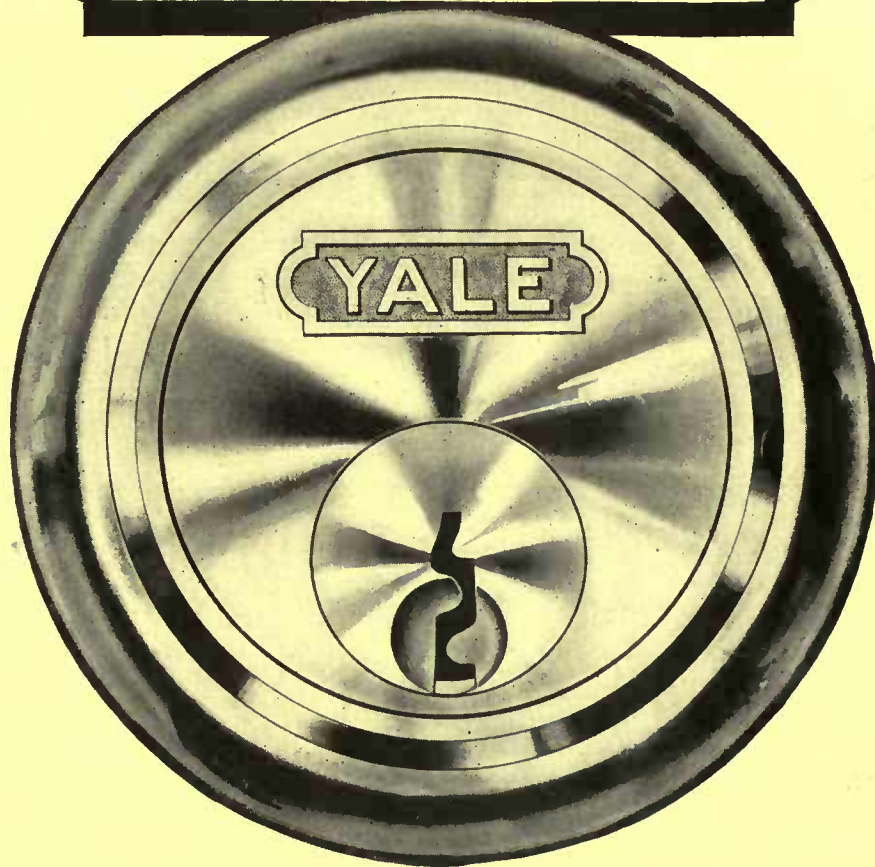
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DANYSZ VIRUS is a Bacteriological Preparation
AND NOT A POISON—Harmless to Animals other than mouse-like rodents. Rodents die in the open. For a small house, 1 tube, 75c; ordinary dwelling, 3 tubes, \$1.75; larger place—for each 5,000 sq. ft. floor space use 1 dozen, \$6.00. Send now.
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YALE



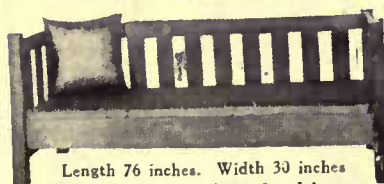
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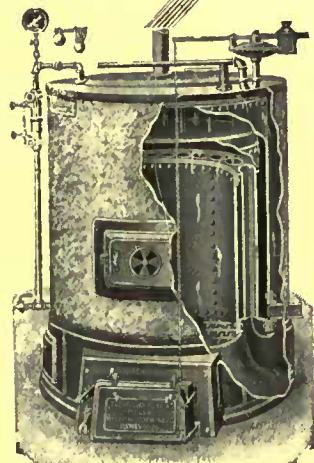
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HENRY H. SAYLOR, EDITOR

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31 EAST 17th STREET
UNION SQUARE NORTH

NEW YORK CITY

Robert M. McBride, President; Conlé Nast, Vice-President; Robert F. MacClelland, Secretary; Henry H. Saylor, Treasurer. Published Monthly. 25 cents per Copy. \$3.00 per Year. For Foreign Postage, add \$1.00; Canadian, 50c. Entered as Second-class matter at the Postoffice, New York, N. Y.



THE HOME OF MR. MARSHALL P. SLADE, MOUNT KISCO, N. Y.—*Charles A. Platt, architect*



House & Garden



VOLUME XXI.

January, 1912

NUMBER I



Which shall it be—the old house with its grand old trees and time-mellowed lines, or the new one fresh in every part and built to fit your own needs?

An Old House or a New One?

[One of the most interesting questions that the prospective home builder meets is that suggested by the title above. We have asked two writers, whose names are probably familiar to HOUSE & GARDEN readers, to take respectively the one side and the other in a sort of debate. This frank summing up of merits and defects may help the puzzled reader to decide the question as it relates to his own particular case.—EDITOR.]

CHIEF among the old houses that are being reclaimed to-day are those situated in the country that were built as farm-houses, with a single eye to the fulfillment of that purpose. But the abandoned farm is now neither abandoned nor a farm. It is a country seat. Si Wilson's old place is now known as "Rockymead." The hay cart has surrendered its place to the limousine. The city man with his store clothes has moved in with his family and servants.

What will interest us in this discussion is to examine and see just how well these new inhabitants fit into the old shell, how thoroughly the old farmhouse, with its barns and outhouses, serves the needs and reflects the more complex civilization which it is called upon to shelter.

Build a New House

BY ALLEN W. JACKSON

The buildings were built in a more primitive age in a remote region by a hardy people who had to live laborious, self-reliant lives. Their business was farming. The house was placed not with an eye to the coolest breezes and the best view, but rather with its back to the cold winds, and the view was most probably of the barn. This latter, if it was not actually a part of the house, for ease of service, occupied the nearest southern slope, that the cow-yard might have the winter sun.

The view was as it happened and at best a by-product of the main business of obtaining milk and vegetables. Bathrooms and plumbing were unknown. Heat was obtained from open fires or stoves, and the cellar was as often as not under the main



With a new house you can get your view, your breeze, your heating, lighting and plumbing and the arrangement of your rooms exactly as you want them



In the new house you can have all the comforts and conveniences—those ingenious contrivances that help to eliminate drudgery and save strength

house only. The living-rooms were apt to be small and the connection of dining-room and kitchen, when they were not the same room, was direct, with a single door.

All these things were a direct and logical outgrowth of the conditions under which they had their growth. They were perfectly adapted to the life that went on in them under the existing state of development. But to put a modern city family, with its demands for such things as bathrooms and butlers' pantries, piazzas and views, and which has servants, with the attendant separation in the household which they bring, into such a house, will necessitate a great stretching and twisting of these old buildings. When we are through it will usually be found that we have got what we wanted only at a great sacrifice of space and directness.

It may be a physical possibility to build on piazzas, turn bedrooms into bathrooms, knock down partitions, and install heating and plumbing systems, remove barns or turn the house around; but when we have finished, what have we? We have as a hybrid, half new, half old, with none of the strong points of either. We have still an old house; old frame, old floors, old chimneys. The interest on the money we have saved in buying the old place will hardly serve to keep it in repair. The renewals will begin as soon as the carpenters are out of the house and will never cease. The quaintness and charm, the delicate intangible essence of a bygone age, cannot survive such rough usage. We cannot alter the statue and preserve the lichen. We shall have added so much new, sharp, clean work side by side with the old—new sills next

battered trim, fresh clapboards here and there among the old, and pieces of new roof with its neat flat shingles, that the effect of age is destroyed. On the inside we shall have to contend with such things as sloping floors, and heating and plumbing pipes showing in the rooms instead of being in the walls out of sight.

Our plumbing-pipes may not be decorative, but at least they will work, but with our heating we shall not be so sure even of that virtue. Your farmer kept warm by means of a sufficient number of red-hot, air tight, stoves, but just how many tons of radiators is their equivalent we dislike to think. The old building has not been buffeted for years by the four winds of heaven without opening a crack here and there, for we might say here as a parenthesis that there is a mistaken idea in some quarters that the old work was stronger and better built than such work is to-day. We hear much talk of the great honest oak beams and girts of our old homesteads. True, they are there, but while the main corner posts and principal cross-girders are unnecessarily large the timbers between, that correspond to our floor joists, are very much too small. Without discussing the merits of the old scheme of framing, there can be no doubt about the clumsy, unscientific proportioning of the timbers to the loads they were called upon to carry. We see the result in the shakiness of the old floors, which is not due to any unsoundness of the timbers, but solely to their lack of size and consequent strength.

Neither have we a more successful solution if we resolve to be less drastic and take things as we find them, and live as the original owners did.

There are those who dislike the jar of being pried out of the rut which they have grown to fit. This is the twentieth century,



If you can find a site with trees and will plant vines and shrubs at once, your new house need not seem strange in its setting for long

and city people who have grown up and hardened into a system in which bathrooms and cooks, radiators and electric lights, play a large part, find it a shock to be hurled back into the eighteenth. They feel helpless. The mechanical part of everyday existence which was formerly automatic now requires a conscious effort.

Putting aside the question of convenience for the moment, there is one other matter that we will touch upon as delicately as may be. An old house has often fallen upon evil days and its roll of occupants have sometimes included those who were somewhat careless in their personal habits, so that the inhabitants whom they introduced live after them. To have an old house so infested is a serious thing with more fastidious owners, and to eject such tenants is no easy task. There is the other danger, perhaps more remote, of the house having harbored some contagious disease and never having been thoroughly disinfected.

Now let us turn to the case of the new house. It is built in a location of one's own choosing, to suit the needs and desires of him who is to inhabit it. It will fit him physically and temperamentally like a glove. He will get his view, his breeze, his heat, light and plumbing, his rooms and their arrangement, exactly as he wants them—not as somebody else's great-grandfather wanted them; and when the house is finished it is done. Like the Wonderful One-Hoss Shay, every place "is uz strong uz the rest," and when the time comes it will go to pieces in much the same logical way.

Everything is clean and fresh and there are no unspoken, haunting fears. We have all the comforts and conveniences about the house that have become part of modern life—those ingenious contrivances without number that help to eliminate drudgery and save strength, and present us each day the precious gift of extra hours to spend or squander as we will.

To old buildings is rightly ascribed a charm, a quality, that is inseparable from age. The subtle appeal of things over which Time has passed his heavy hand is felt even by the most unsensitive. Such venerable piles are altogether lovely and our countryside would be barren indeed without them. We delight in them as houses; are enthusiastic about them as homes—for others.

Remodel an Old House

BY JARED STUYVESANT

FRANKLY now, is there any object on this planet that is quite so *raw* as a house fresh from the builders? Is there any other thing that so closely resembles an excruciatingly sore thumb on the face of nature—if you will overlook the mixed



A little patching by sympathetic mason and carpenter, plenty of fresh paint and a thorough understanding of the house's personality will result in a home that cannot be matched by buildings of to-day

metaphor and give your undivided attention to the real horror of the exhibit itself? There it stands on its nice little red clay-bank, flaunting its new paint, its glaringly fresh roof, its spic and span hardware (probably still partly covered with the manufacturer's dirty white canton flannel bags), its great panes of plate glass with sprawling labels intact—there it stands in all its garish newness, calling loudly to all who pass, "Come, see my fine slippery floors, my patented clothes chute, my leaded glass bookcase doors; just see the fine tiled laboratory I have for a bathroom and listen to the music of my fourteen electric bells!"

Is that the sort of thing you would call Home? If so—well, you deserve it then, and should be sentenced to it for the rest of your life. But before you start to serve your term come down the road with me for a moment. I want to take you out of this atmosphere of new paint, new shingles, faultless cement side-



It is an easy matter to add to an old house, securing additional rooms such as a conservatory or breakfast room, without marring in the least its character and unity



Houses of this kind are not built by the workmen of to-day—it would be impossible to duplicate even the charm of the old stone wall

walks and little spindling maples planted exactly forty feet apart along the new granite curb—out along a road that has never been straight-jacketed by the surveyor. Let's follow along its great sweeping curves under the shade of those spreading oaks and elms, up over that hill where the red cedars and white birches huddle together in thickets back of the old gray rail fence. There is a tangle of wild asters and goldenrod along the roadside, and here and there a great clump of sumach putting forth its deep red winter fruits. Just beyond, on the southern slope of the hillside, stands one of the homesteads of yesterday. A clump of spruces, towering far above its chimney tops, shelters the house from the north winds. A white picket fence starts from the end of a vine-covered stone wall and marks the long curving line of the front boundary. Just opposite the end of the south porch a pair of stately white gate posts break the line of the fence and a box-bordered mossy brick walk leads in to the quaintly carved old doorway bearing its brass knocker that has responded to the touch of past generations. Two century-old lilac bushes, grown almost to a tree's stature, lean over the brick walk near the gate. On the simple gable end of the house, facing the road, a fan-shaped trellis is almost hidden with the ripened foliage of a climbing rose. Vines have almost barred the low steps leading up to the long porch, and its floor is already strewn with the leaves blown down by an early autumn storm. To the rear the roof drops down to a lower wing and, still beyond, the shed roof of a kitchen extension ties the old building still more closely to the ground. Across the entrance roadway that has come in just be-

(Continued on page 5)



The house of J. S. Morgan, Esq., Pametos; Messrs. Cope & Stewardson, architects. In England the house builder's first consideration is to place the house so that the public, the master's and the servant departments will occupy the most logical positions in relation to the setting. This main entrance segregates the public part of the house entirely from the more private part, seen on page 18, top of page

The Tudor House for America

BY R. CLIPSTON STURGIS

Photographs by the author, Pach Bros. and others

[The problem of choosing an architectural style for the American country or suburban home is one of the most puzzling that confront the home-builder. In order to bring about a better understanding of the more common types and with the idea of clarifying, as far as possible, this whole matter, we have asked a number of prominent architects to present each the case for one particular style. In previous issues the characteristic features of the Colonial, Dutch Colonial, Half-timber, English Plaster, Chicago School of Architecture, Swiss Chalet type and the so-called Northern Tradition were developed and illustrated at length by prominent architects interested in each of these types. There remain one or two of the more common styles which will be taken up in future issues.—EDITOR.]

SO much has already been written, and so ably written, on the subject of domestic work in this country that there remains but little to add, and the special field I am asked to cover is so vague and so varied that I may perhaps be excused if I try to present some general considerations which may guide one in determining what his house should be.

Most of us who build houses, in fact a very large proportion, wish a home, and it is to the consideration of what a home should be that I wish to call attention. Preeminently a home should not only be homelike, but should look like a home, and the house should seem at home in its surroundings. This would seem much like saying that a circle should be round, except for the fact that although nearly every one has an idea of a home which is accurate and well-defined, and easily recognized, the idea is not always sufficiently clear to be grasped by the imagination.

It is right that we should turn to England for our precedence, for England is a country of homes, and in England more than in any other country we recognize the fulfillment of our ideals of what home-life means. Of the English homes, the country home

is the most characteristic and the most appealing, for the English of all classes have always made the country their home. They love out-of-door life and all connected with it, and they have done this for centuries, and because they have done this for so long they have become past-masters in the art of creating homes.

If, then, we turn to English precedence for inspiration, and try to find out the motives and spirit of the domestic work of England, we should surely gain some knowledge of what a home should be.

I think the prevailing character in all English domestic work is sound common sense. They build for comfort, not for show; they count the cost, and build economically. They love the country, and build so as to preserve its beauties and not mar them when the necessary formality is introduced. They plan for privacy, because privacy is of the essence of home life, and, because they do all these things, almost incidentally as it were, they build beautifully. I say almost incidentally, because their most lovely work seems almost unconsciously beautiful, as if it were a beauty attained without effort.

The English house in suburbs or in country may be based on Gothic traditions as they filtered through the Renaissance days of the Tudor times, or tinged with the Italian spirit which grew side by side with Gothic, or touched by the influence of Dutch brickwork, which helped to produce the Georgian work, but in every case it will be homelike. It will set well on the level amid its well kept grounds, or on the terraced hillside, or in the pleasant valley.

It will have three divisions always more or less clearly marked. The public part, entrances and the like, for the family and for service; the master's part, both in house and grounds; and the service part, also in house and grounds. This is so obviously wise as a fundamental consideration that it is strange to find it so often ignored here, but we may comfort or excuse ourselves with the thought that they have been building to suit conditions of country life for centuries, and we but a short time.

With these three considerations in mind the owner will view his lot of land to determine what part he may spare to the public, what to service, and what reserve for his wife and children. The aspect, the natural features, view, trees, etc., will largely determine these most important things, and if they are settled right many problems in the plan are determined. The entrance to front door is here, and to the service there, the dining-room is near the service portion, the living rooms command the private ground. Then the main features of the plan determine themselves. In just this way is it determined whether

the regularity of a classic plan or the freedom of the Gothic fits best the conditions. It seems to me useless to argue that one or the other is the only way. Both have their uses, both are wholly appropriate and fitting at times. The style should grow naturally from the demands of the special conditions, and neither is necessarily exclusive of the others. The best Tudor and Jacobean houses were planned with great formality of balanced parts, and the later Georgian work was often very free, and frankly unbalanced.

What is true of the plan is equally true of materials, always bearing in mind that what is honest and straightforward in construction is more likely to have the permanent qualities of beauty than what is either false, imitative, or ostentatious.

The English have always used honest, simple material—generally local and economical material. With us local material and economy have little to do with each other because in New England, for example, it is cheaper to bring cut stone from Indiana than to cut our obdurate granite. Nevertheless, we disregard local opportunities altogether too much, and rather pride ourselves on getting something our neighbors have not. We have, however, no excuse for not using honest material: wood, stone, brick, concrete, are all in this class, and have their place and use. Wood is still the cheapest material in first cost, but other more durable

and safe materials are rapidly nearing its cost. To cover wood with stucco makes the frame house safer, and reduces the surface that requires paint, but it has the air of pretending to be



Mr. Chanler's house at Tuxedo is a good example of an American adaptation of an English precedent with secluded garden and porch



When Mr. Cabot built his house in Brookline it was to fit the site of a house destroyed by fire. He chose the freedom of English lines to do this satisfactorily



The effectiveness of terraces as evidenced in houses of the English Tudor type is shown in the Rice house at Ipswich, Mass. W. G. Rantoul, architect



The family side of the house must have privacy first of all. The Morgan house is typical of an English scheme to obtain this



Tudor brick gains in attractiveness as the years go. The Sims house near Philadelphia exemplifies this. Cope & Stewardson, architects

more substantial than it really is. The English, Scotch or Italian stuccoed houses are built of brick or stone. It is, however, a somewhat harmless pretense, and economy may well warrant it.

The stone house may be wholly charming or quite repellant, depending largely on how simple it is and how largely nature is allowed to beautify it (I am speaking of simple homes now, not of cut-stone palaces). Brick is the material which more universally and longer than any other has stood the test of time's judgment; and of all bricks that which has best stood the test is the common red brick with varied colors and textures that are the natural product of the kiln.

During all its great period of brick building England has set its stamp of approval on the red brick. Dutch influence introduced many interesting expressions of brickwork, varied bonds, diapers, rubbed mouldings in belt courses and chimneys, but through all the plain brick wall of good red brick, well laid and well bonded, has held its place as a method of building, at once simple, beautiful and economical. For this reason I believe strongly in the use of common brick for our country houses.

There remains of the four I named, concrete. This is practically a modern material, at all events all reinforced forms of concrete. In appearance it is a stucco wall, with some possibilities which the



The English precedent does not necessarily enforce rigid limits. This house combines other features. W. G. Rantoul, architect

stucco has not, namely, a surface as hard and durable as the best stones, which can be cut and hammered as stone can be. More than that it can be treated in a unique way when it is still green, for then a brush and water will serve to give it texture and reveal the interest of its component parts.

These four, then, are the simple materials, and because wood is perishable and inflammable, and, of the other three, brick is the most generally available material, I think it should always be considered when the material of the house is under discussion. There are few places in the country where brick can even be imagined as

out of place, because there are few where clay and sand do not exist. Just as brick may be always entitled to consideration so may English precedence be entitled to come first. Yet in this

broad and varied country it would be absurd to claim that English precedent should always govern. The Spanish set their stamp on the coast, and, working along the lines of the Spanish Renaissance in material that was local and characteristic, they produced a type that gave Mr. Bertram Goodhue a chance to show how completely charming, and home-like as well, the white, flat roofed concrete



A house built on English lines showing Georgian influence but not bound by the formality one usually expects to find with the type. McManus house, St. Louis. Cope & Stewardson, architects

house might be. (The Gillespie house at Santa Barbara.) At
(Continued on page 5)



This effective paneled treatment may be secured at a cost little above that for papering, by applying narrow wood molding directly to the plaster and painting plaster and woodwork alike

Paneling and Some of Its Short-cuts

A PLEA FOR THE REVIVAL OF THE MOST SUMPTUOUS AND EFFECTIVE TREATMENT OF THE INTERIOR WALLS—SOME INEXPENSIVE SUBSTITUTES

BY RUSSELL FISHER

Photographs by Wm. T. Clark, Mary H. Northend and others

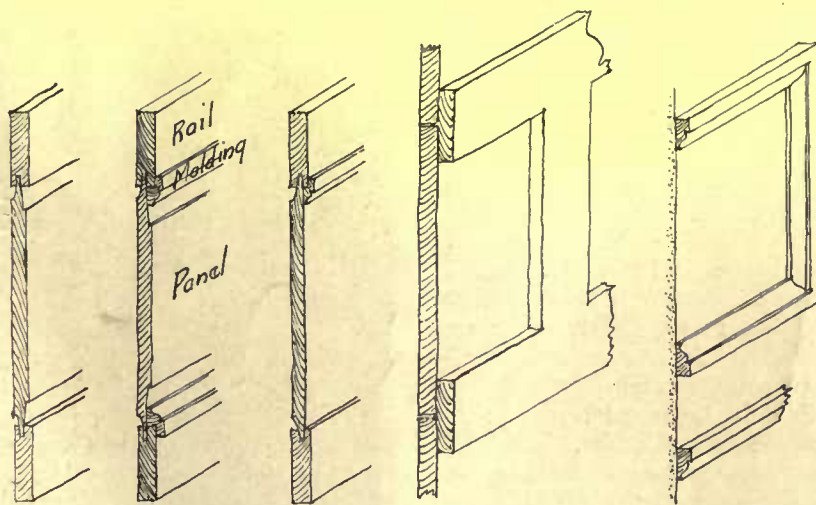
IT seems a pity that in these days of building for quantity of rooms rather than quality, paneled walls have had to go. The demand for more rooms and larger rooms, in that house that must not cost over six thousand dollars, effectually silences the architects' plea that we build only as much as we can build well. The whole matter of building a home is one of give and take, of sacrificing one feature to gain another—although it does seem as if the giving up far overshadows the getting.

In the olden days the needs of a family undoubtedly were far less in the matter of size and conveniences. Far more often was a home built for immediate needs only as regards space, leaving to the future the inevitable additions that a growing family would require. But we are not satisfied with that procedure today. We feel that we have to put on a bold front and have our new house proclaim to the world the full height of our prosperity and material resources. It is too bad, for it means inevitably that the house will have to be scamped in many ways. Cheap floors and wood trim will doubtless be used, and as for wood paneling in

hall or dining-room—that is entirely out of the question.

I sincerely hope, however, that these pages will be read by some who are not content to follow the crowd in that way, who prefer to have their homes something more than four walls and a roof, even if its area and "front" do have to suffer somewhat. To them I would present the merits of wood paneling as one of the most effective means at our disposal of securing that air of permanence and quiet elegance which gives a home character.

Undoubtedly one of the chief reasons why there is so little paneling seen in the homes of today is because there is a widespread impression that there is but one kind of paneling and that is expensive. As a matter of fact there are many varieties of paneling, varying widely in cost. This does not refer to the materials used—pine or oak or mahogany, for example, but to the manner in which the material is put together. A simple wainscoting of mahogany might very easily be erected at a cost lower than the builders would charge to put in an intricate design in pine or whitewood. The item of labor—largely millwork—is an all-important one.



1. Real paneling—a beveled board fitting into thicker strips.
2. The same, with a further enrichment of cover molding over the joints.
3. The panel here is not beveled on the face, saving millwork.
4. Wood strips over wood boards—a type for the craftsman house.
5. Wood molding on plaster or on composition board:



An old Colonial home where the panels themselves are extremely wide. We cannot secure such widths in boards to-day



A simple treatment of wood strips over plain wood boards finished without stain in the natural color of the wood



The chief element of cost in paneling is in the labor. This intricate design means expensive millwork and costly fitting together

But let us look more closely into the various types of paneling. Until recent years the word paneling was understood to mean a very definite thing. It was a framework of wood strips, say four inches wide and one inch and an eighth thick—called rails or stiles, the enclosed rectangles of which were filled by thinner boards, beveled to an edge which was driven tightly into a corresponding groove in the rail or stile. In its simplest form, a section of this paneling is shown in the second diagram. This is the type that we find in the Colonial homes of New England and the South, usually of white pine painted white.

If the architect felt the need of further enrichment, or the client's appropriation showed no immediate signs of dwindling, an additional molding was incorporated into the design, used as a cover for the joint between panel and rail, as shown in the first diagram. Occasionally the work is found in a still simpler form, with or without a cover molding, as in the third diagram.

Millwork is saved here by omitting the rebate and bevel from the face.

In certain types of interior—those not founded on classic lines—moldings are omitted from all woodwork, as, for example, in the so-called craftsman type of houses. Paneling for such a house usually resolves itself into a series of strips, corresponding to the rails, laid directly on a flat surface of wood, such as is indicated in the fourth diagram. Paneling of this sort is less expensive than the tongue-and-groove kind because of the avoidance of millwork and close fitting. It is ordinarily laid out so that the joints of the under surface of wood will be concealed by the applied stripping.

So much for wood paneling proper. In these days of high lumber prices, when clear, seasoned woodwork is one of the most costly elements in a new house, there have been many ways devised by which the symptoms effect of wood paneling is secured with the aid of less expensive materials. In diagram No. 4, for example, instead of using wood throughout, a manufactured product is often used as the under surfacing, nailed to the plastered wall. There are a number of such products on



The effect of a paneled room secured by applying wood molding to the plaster. The panels would have been more effective if narrower



A rather unusual type of panel design in which is secured a double line around the rectangles



For a dining-room, particularly, no wall treatment seems so rich and appropriate as paneling, whether it extends entirely to the ceiling or as a wainscoting with a frieze above, as here

the market under various names, made usually of a combination of materials, wood pulp included, compressed hydraulically or otherwise into a compact, smooth-surfaced sheet that has most of the properties of a wood board, and which when properly finished is practically indistinguishable from wood. Wood, however, is usually used as the over-stripping because that material can the more readily be finished with firm smooth edges.

Unless a wall surface is paneled from baseboard to ceiling, the eye expects the paneled portion to project the ordinary thickness of woodwork beyond the plastered wall. It is not entirely satisfactory, therefore, in a wainscoting, to apply merely stripping, or a molding as indicated in diagram No. 5, directly to the plaster wall, unless we carry the panel design all the way up. In the latter case an inch molding will serve to create the effect of a paneled wall, the wood and-plaster being painted several coats, of white usually, together. When the paneling is to be merely a low wainscoting the use of composition board, finished along the top edge with a suitable crown molding and laid off in rectangles



A bedroom treatment in which the plaster walls are divided into panels with a molding that covers the edge of the wall fabric



The simplest form of good paneling is employed here, capped by a plate shelf on brackets. The frieze above is stenciled on rough plaster

of the proper size in molding, will give a substitute for the far more expensive wood paneling that is eminently satisfactory.

If one has the temerity to attempt designing one's own paneling, there are several points to be kept in mind—traditions, they might be called, that will help to bring about a satisfactory result. One of these has to do with the width of the rail or stile. This member should not depart very far from the commonly accepted width of four inches, and it should have the same width between and above the panels proper, with either the same width or a slightly greater one at the bottom, just above the baseboard. Then, too, although in some of the houses built by our Colonial ancestors the panels themselves were of great width, it should be remembered that nowadays it is uncommon to find a good board wider than twelve inches. The panels, therefore, should be less than this in width rather than more if one is utilizing one of the

(Continued on page 6)

Reconnoitering for a Building Site.

WHAT SQUATTING IN A TENT CAN DO TO MAKE ONE FAMILIAR WITH HIS BUILDING SITE—
THE WAY A MAN AND HIS WIFE SOLVED SEVERAL PHASES OF THE BUILDING PROBLEM

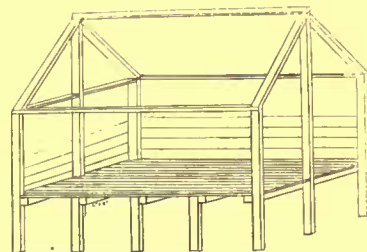
WHEN our love of the country and weariness of town decided for us the location of a home, I started a card-indexed file, in which was placed every bit of information that could be found. It was culled from publications devoted to country life, either copied on file cards or in the shape of clippings; and this plan I can cordially recommend to any one planning a country home. For months we pored over all sorts of reading matter and illustrations of country houses and grounds and their practical accessories, and found that when we began the actual search for a place suited to our ideas and purse, we were able to gauge far more intelligently the possibilities of the various properties shown us. Therefore, after scrambling over picturesque landscapes so rocky that, as the driver whimsically remarked, one would have to follow a hen about with a pillow to save the eggs; bumping our heads on the ceiling of old farmhouses appealing to be "made over," and steeling our hearts against the charms of wonderful old Colonials—too wonderful, alas! for the family purse—the patient real estate agent took us up a quiet road and stopped in front of what seemed at first glance to be a rather run-down meadow, extending up a slope to a tangle of undergrowth, and flanked on one side by dense woods. By the time we had gone half way up the slope, the charming country view unfolded; when we reached the top, there was added to it a sparkling stretch of blue Sound, with Long Island beyond, and we stopped, delighted. Tiny cedars flourished everywhere, with occasional well-grown oaks, while along the top of the ridge, as we walked back, were the woods, which ran thence down to the road.

After spending twenty minutes on the place, we saw it had many possibilities, and in a week the sale was completed. We



The days were spent in exploring the beautiful woods near at hand

BY MARGOT RICHARDS



The frame-work of the tent was built of 2 by 4 scantlings



An ordinary canvas tent was stretched over the framework shown above and a raised floor constructed. In this the entire summer was comfortably spent

were potential farmers!

The demands of business upon the time of the head of the house made it impossible for him to commute that summer, so the question of building at once was regretfully put by; but our bit of land drew us like a magnet, and one Sunday while walking through the woods, the Great Inspiration came. Why not put up a tent and spend our weekends there?

Before the next Sunday came, a department store had delivered, transportation free, to the town near which the land lay:

1 9 x 12 tent, with fly, costing.....	\$13.50
2 army cots.....	4.00
2 camp stools....	.50
1 folding table...	1.25
2 pillows (floss filled) ..	1.00
2 quilts	2.00
2 cotton blankets, double.....	2.00
Mosquito netting for two.....	1.50

We bought also—

2 army blankets.....	7.00
2 folding bars for the mosquito nets...	2.00

Locally we purchased—

At a five-and-ten-cent store agate ware dishes for table and cooking, galvanized tub and pails.....	4.00
Lumber	13.00
Sheet iron for cooking purposes; tools, nails, spikes, wire netting, a coffee mill for wall.....	8.00
Roofing paper.....	1.25

\$61.00

Just inside the woods on the crown of the ridge there is a natural clearing which looks out upon the beautiful country; and here the tent was stretched on a framework of 2 x 4 inch scantlings; the floor, made of rough boards, being about two feet off the ground, the sides boarded up for about three feet above the floor. The framework was built so that the tent, when stretched on it, just overlapped the board sides,

adding height to the tent room. The fly was fastened on each side to a 2x4 nailed to extensions made on the front and back framework. The steps, built separately, were portable.

The ground for a radius of perhaps twenty-five feet about the tent was cleared of all small growth; a cook-place, open at both ends, was built of large flat rocks, with the piece of sheet iron for a top. Then a shelter was made for it from the roofing paper, and a portable cook table was made from rough boards. Finally the spring in the woods was cleaned out and covered.

Inside the tent, beside the cots and the steamer trunk in which our clothing was kept, were sets of shelves for dishes, canned goods, toilet articles, simple medical remedies for emergencies and books. One very necessary piece of furniture was the cupboard made of boards and the wire netting mentioned, in which we kept bacon, potatoes, cheese, etc., during the week. Each Saturday we took out with us fresh meat, bread and butter, and from a neighbor bought milk, cream, fruit, fresh vegetables and poultry.

When we had followed the path through the woods up the hill to our "home," untied the flaps of the tent and changed into our camp clothes, we began to live again. "Himself" put on a flannel shirt, blue overalls and heavy shoes; I, bloomers, blouse, elkskin shoes and (if I went off the lot) a skirt. He acquired a mighty muscle chopping, pruning and swinging the scythe; and what with the simplified housework, foraging for firewood, botanizing, reading and sewing, there were never hours enough in any day for me. Rain made very little difference, as we had waterproof shoes and clothing at hand, and it was delightful to sit within the tent and watch the rain far off over the country. And so, until the cooler weather, we had many a long tramp and trolley ride in the



The land was bordered by a run-down meadow grown with cedars



The adjoining wood will supply the building materials for the house



A clearing was made, leaving protecting timber to the north and east



The living part of the house will command a view of the sound

lovely country about us until snow came.

But best of all, for us, has been the opportunity for acquiring general information as to the neighborhood, finding out the possibilities of our land, and planning, on the ground, for our home and its accessories.

There are about fifteen acres, one-third solidly timbered, with a plentiful scattering of trees on the higher cleared land. As the point where we have placed the tent seems to be a natural site for the house, we shall build there, facing the Sound and hills, a modest rock and plaster farmhouse, modified Dutch-Colonial in type, cutting out enough of the timber in the rear to make room for the service yard, garage and workshop combined, and, beyond, the vegetable garden, with hotbeds and coldframes down the slope, leaving enough timber to the north and east for a windbreak.

In getting acquainted with the neighborhood, we find that building can be accomplished in this locality more cheaply than we had imagined, as all building materials can be obtained at first hand in the vicinity. Rock we have in plenty on the land itself, in the woods and in two old stone walls which subdivide the property. There are mills near by, so that, having planned the house during the summer, we have been able to engage the chestnut which we shall use for interior finish, that it may season before we need it.

Our thought in everything we plan is, by using the right kind and best material available, to save maintenance and repair expense, even though it costs somewhat more in the beginning. We shall therefore use hollow tile in the construction of the house, both for warmth and coolness. Hot-water heat seems the best in the long run, and the easiest to manage. Electricity will furnish the light. A good deal of the furniture will be built-in — bookcases,

(Continued on page 7)

The Case for Hot-Air Heating

THE STRONG ARGUMENTS OF HEALTHFULNESS, EFFICIENCY, EASE OF OPERATION, FUEL ECONOMY, COST OF MAINTENANCE AND FIRST COST IN FAVOR OF THE HOT AIR FURNACE—THE MODERN ADVANCEMENT MADE IN IMPROVING THIS SYSTEM

BY WILLIAM F. COLBERT, A. B., M. D.

EDITOR'S NOTE.—"What heating system shall I use?" is the constant query of the home-builder. To assist in solving his difficulty, *HOUSE & GARDEN* has had experts in heating engineering present the advantages of their own favorite types of apparatus. For the first time the whole case of the best heating method will be presented to the public as a jury. The last article was on steam heating; its predecessor was on hot water. Another will follow presenting the characteristics and advantages of the indirect system.

IN this age of hygienic progress, how many people insist on provision for automatic ventilation of their houses during the winter months, when doors and windows are closed and storm doors, storm sash and weather stripping are used to keep out the cold winter winds!

Yet health officers over all this broad land tell us that lack of ventilation is the most important cause of the increase in "Bad Air Diseases" during the winter months. In fact, pneumonia, bronchitis and tuberculosis—"The Bad Air Diseases"—are, generally speaking, winter diseases. As we spend more than half of each twenty-four hours in our houses, during the winter months, the condition of the air in our houses is the most important factor in determining our ability to throw off infection by these diseases.

The "Bad Air Diseases" are by no means the only ones to which lack of ventilation lessens our resisting power, but the list is too long to discuss within the limits of a short article.

The ventilation or lack of ventilation of a house is practically settled when the system of heating to be installed in a house is decided on; that is, when you select a system of heating for your house, you unknowingly, but most certainly, decide what risks you are willing to take with your own health and the health of your family. It would seem from this that the selection of a heating system for a new house is a matter of prime importance and one deserving more careful attention than is usually devoted to it. It is of such importance that the system of heating to be installed in a residence should be the first item considered, instead of the last, as is usually the case.

The intelligent selection of a heating system for a building requires careful consideration of many factors, such as healthfulness, heating efficiency, ease of operation, fuel economy, cost of maintenance, and first cost.

If the building is intended for occupation by human beings, as a residence, factory, office building, school building, theater,

church, hall, etc., the item of healthfulness becomes of increasing importance in direct ratio to the number of hours per day human beings occupy the building. Our school buildings are ventilated as well as heated, according to a stringent legal standard. Many of our large corporations are placing ventilating systems in their office and factory buildings in states where ventilation is not required by law. And why?

Because our school officials discovered long since, that the standard of health, regularity of attendance and ability to acquire knowledge was much higher among pupils in ventilated than it was in unventilated buildings. Our large corporations find the increased efficiency of employees pays the cost of maintenance of a ventilating system plus a handsome dividend on the investment; this without considering the saving in doctor's and druggist's bills, etc., which they do not have to bear.

In recent years the relative humidity of air in heated buildings has been the subject of lively discussion, but it is now accepted as fact that the air in artificially heated buildings should be maintained at approximately the same percentage of relative humidity as the average percentage in the outdoor air. To do this it is necessary to use special air moistening apparatus. As usual, the school and corporation officials have been among the first to avail themselves of this knowledge. The experience of school and corporation officials points the way for the man building a house for himself and family, for he stands to profit by the saving in doctor's and druggist's bills in addition to the increased working efficiency of himself and his family.

The direct method of heating in which the air in the rooms is directly warmed by heating apparatus within the room, does not include provision for ventilation. The direct steam, vapor and hot-water radiator systems of heating are the most common examples of heating by the direct method.

Enlightened opinion of the merit or lack of merit of the direct method of heating is well illustrated by the opinions cited herewith:



The simple lines and economy of space of the register put it ahead of anything that has been discovered in the making of radiators

"Under no circumstances should a room or office be heated exclusively by direct radiation from exposed steam radiators or pipes. It is one of the most unhealthy, killing systems in existence.

"LEWIS W. LEEDS,"

"Consulting Engineer of Ventilation and Heating for U. S. Treasury Department, in 'Proceedings of Franklin Institute.'"

"After careful study and trial and observation, I am compelled to condemn all direct methods of heating by radiators located in the rooms.

B. G. LONG, M. D., Buffalo, N. Y."

"In all cases, tubercular diseases of the lungs and pneumonia are the diseases which are the most prevalent among persons living and working in unventilated rooms.—The Composition of Expired Air, and Its Effects upon Animal Life, by J. S. Billings, A. M., M. D., S. Weir Mitchell, M. D., and D. H. Berger, M. D.; Smithsonian Contributions to Knowledge."

"During all the cold winter months we have a steadily increasing death rate from the bad air diseases, namely, bronchitis, pneumonia, and consumption. Especially is this true in Chicago, where so large a percentage of the population is living in steam-heated tunnels, called, by courtesy, flats or apartments.

E. R. PRITCHARD,

"Former Secretary of Dept. of Health of the City of Chicago."

"I have noted that direct steam and hot water have an unfavorable effect upon health, and this is particularly marked in diseases of the lungs, throat and respiratory passages. I attribute this unhealthy condition to the lack of proper ventilation in rooms thus heated. Living rooms should be heated by pouring untainted warm air into them, and in no other way.

"CHRISTOPHER H. SHEARER, M. D., Reading, Pa."

"It is well worth while for every man to understand that an abundance of fresh air is not merely theoretically a good thing, which is to be accepted if it come in his way, but that it is a necessity for the preservation of health and happiness, and that it is worth taking special pains to procure.

JOHN B. BILLINGS, A. M., D. D.,
in "Ventilation and Heating."

The only method of heating that lends itself to ventilation and humidifying the air in a building is the indirect method, wherein pure outdoor air is warmed and moistened by apparatus in the basement or cellar of the building and then conducted through ducts to the rooms to be heated.

The indirect method of heating in addition to hygienic superiority, has marked architectural advantages, in that it does not require the presence of radiators within the room. Unless direct radiators are concealed in recesses in the walls, they are a distinct impediment in the decorative scheme of the room. Radiators concealed in recesses do not give satisfactory service, aside from the consideration of the extra expense involved in providing a larger radiator than would otherwise be required, lining the recess to avoid excessive loss of heat through the wall and providing an

ornamental grille to conceal the radiator.

It is claimed that radiators can be decorated in keeping with the decorative scheme of the room; however, the radiator is still occupying valuable floor space in the room and retains its beautiful enameled tints for but a few months after the hot water or steam is allowed to circulate through the radiator. The heat destroys the enamel on the radiators within a short time. Experience has proved that the only durable decorative

covering for radiators is the unsightly bronze that is rarely mentioned in articles on hot water and steam heating, but which is used almost to the exclusion of other decorative materials.

The indirect method of heating is the method followed in heating modern school buildings, office buildings, factories, etc., when ventilation is required.

There are but three practical systems of heating based on the indirect method, namely: indirect steam or vapor heating, indirect hot water heating, and warm air furnace heating.

Of these systems the warm air furnace system, properly installed, is the most practical system for heating and ventilating 999 of every 1,000 residences.

The indirect steam or vapor or hot-water radiation systems have no real advantages over the warm air furnace system for heating and ventilating residences. In fact they have many disadvantages, such as cumbersomeness (occupying as much as 35% of all the space in the basement), difficulty of operation, extravagant fuel consumption (50% to 100% more than good furnace heating), high cost of maintenance and excessive first cost (twice the cost of direct radiation heating), difficulty of humidifying the air.

In contrast to these disadvantages of the indirect radiation system of heating are the decided advantages of the warm-air furnace system which occupies from 5% to 8% of the space in a basement, is easy to operate, is moderate in fuel consumption (well installed furnaces require less fuel than is required to heat by the direct radiation system because of the much greater average efficiency of good furnaces as compared with standard types of house heating boilers), low in cost of maintenance, durable (good furnaces last from 25 to 40 years), moderate in first cost (a trifle less than cost of direct steam radiation system).

The best heating results in residences are obtained with indirect systems of heating when they are combined with a formal system of ventilation—consisting of vent ducts, vent registers, ventilating shaft, etc.—and it is a curious fact that the superior heating results are obtained without an increase in fuel consumption in the case of the warm air furnace. In residences there is actually a reduction in the fuel consumption when a proper ventilating system is installed with a warm air furnace system of heating; this being due to the fact that the free circulation of air through the rooms makes it unnecessary to force the fire to secure the desired heating results. To the prospective house owner it is of interest to know that the combined first cost of a good warm air furnace heating system, with a formal system of ventilation, does not exceed the cost of a direct hot water radiation system.

It is but proper to warn the public that cheap furnace heating always proves unsatisfactory in heating results, in fuel consumption and in durability. A heating contractor who is competent to properly install a warm air furnace heating and ventilating



Even in the most formal room the register does not detract from the delicate decorations or present an unsightly appearance



Wall registers are made in an infinite variety of patterns and can be had to coincide with the decorative scheme

(Continued on page 4)

Vines to Grow Indoors

THE ATTRACTIVE DECORATIVE RESULTS OBTAINED BY THE USE OF VINES AS HOUSE PLANTS—WHAT VINES ARE ESPECIALLY FITTED FOR THIS PURPOSE AND THEIR CHARACTERISTICS

BY F. F. ROCKWELL

Photographs by H. H. S., Nathan R. Graves and others



The large purplish flowers of coboea are easily produced

IT has always been something of a puzzle to me to know why the vines are not more commonly seen in houses where plants are kept.

Several of them are among the very easiest plants to grow, but that is only their first claim to consideration. The most important argument in their favor is that with vines you can get decorative effects which cannot be had from any other house plants; effects not only unique but lasting. A flowering plant has its ups and downs. It may be covered

with bright flowers today, and tomorrow be but a mass of foliage. A well-grown vine, on the other hand, one can fit into the general scheme of a room's decorations, where its singular beauty will remain an attractive feature throughout the winter.

The decorative possibilities with vines are limited only by one's ingenuity in training them. A pair of flowering Thunbergias, for instance, trained up the sides of the window, where they will get ample light to bring out the beautiful flowers, forms a decorative scheme that will at once attract and please the eye and never grow monotonous. I have seen an ivy, led up as a single stem, and woven in natural graceful curves across a transparent white curtain, that made the most artistic, graceful tracery of living green imaginable.

The *Coboea Scandens* is the most rapid growing flowering plant for the house, attaining, under the best conditions, a length of twenty to thirty feet. The saucer shaped flowers, which are frequently two inches across, are purplish in color and very pretty. The coboea is easily managed if kept properly trained. As the plant in proportion to the pot room is very large, liquid manures or fertilizers are desirable. Either seeds or cuttings will furnish new plants. The former should be placed edge down, one in a two-inch pot and pressed in level with the surface. They will soon need repotting, and must be shifted frequently until

they occupy six or eight-inch pots. *Coboea Scandens variegata* is a very handsome form and should be tried without fail.

The Thunbergia, sometimes called the "butterfly plant," is the best all round flowering vine for the house. The flowers are freely produced, average an inch to an inch and a half across, and cover a wide range of colors, including white, blue, purple, yellow and shades and combinations of these. Its requirements are not special; keep growing on during summer into a somewhat bushy form, as the vines will grow rapidly when allowed to run in the house. It can be grown from seed, but cuttings make the best plants. Root early in spring, and by having a succession of rooted cuttings blossoms may be had all winter. *Thunbergia laurifolia* has flowers of white and blue; *T. frangrans*, pure white; and *T. Mysorensis*, purple and yellow.

The ivy vines are the most graceful of all, and with them the most artistic effects in decoration may be produced. I have always wondered why they are not more frequently used, for they are in many respects ideal as house plants—they produce more growth to a given size pot than any other plants; they thrive in the shade; they withstand the uncongenial conditions usually found in the house and are among the hardiest of plants suitable for house culture. And yet how many women will fret and fume over a Lorraine begonia or some other refractory plant, not adapted at all to growing indoors, when half the amount of care spent on a few ivy plants would grace their windows with frames of green, giving a setting to all their other plants which would enhance their beauty a hundred per cent. The English ivy (*Hedera helix*) is the best for house culture. A form with small leaves, *H. Donerailensis*, is better for many purposes. And then there is a variegated form, which is very beautiful. Large cuttings, rooted in the fall, will make good plants. *Hedera helix arborescens* is known as the Irish ivy and is a very rapid grower.

The German ivy (*Senecio scandens*) has leaves the shape of the English ivy, and is a wonderfully rapid grower and a great

(Continued on page 70)



Many beautiful effects may be had with pot-grown ivy by training it up the wall over the woodwork



A removable lattice of wire is attached to the molding, and upon this the ivy has climbed, and from the box on the floor

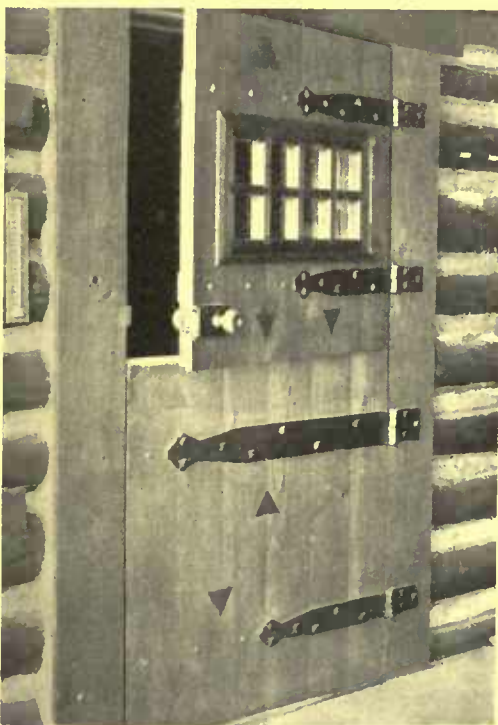


Knockers and thumb latches of brass are suitable for Colonial doors



Strap hinges add considerably to the appearance of an informal doorway

HARDWARE SUGGESTIONS



Wrought iron is the best material for a camp



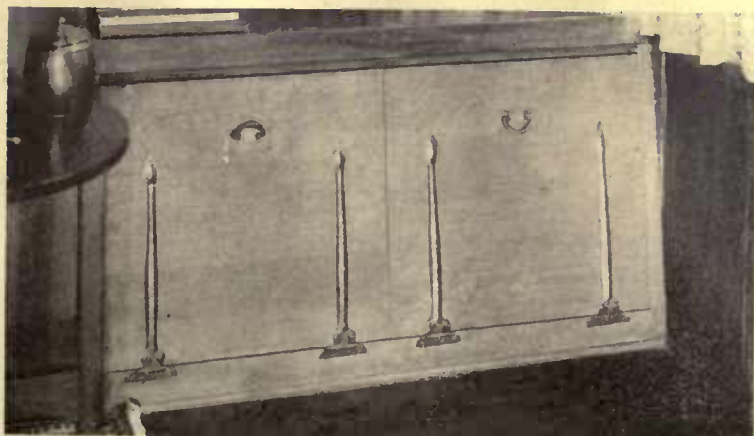
The thumb latch need not be obsolete, but can be connected with a modern door lock



With the Colonial inside trim, an old-fashioned brass lift latch is appropriate



Brass knockers come in a variety of materials and should fit the style of house



Hardware offers opportunities for the craftsman to exert his ingenuity on hammered brass and iron



With the wax finished woodwork nothing is more suitable than the suggestion of hand-wrought hinges and handles

The Uniformity of Modern Floor Plans

A VERY FEW TYPICAL ARRANGEMENTS COMPRISE PRACTICALLY ALL PLANS OF THE MODERATE-SIZE HOME BUILT TO-DAY

BY P. A. HUNTINGTON

Numbered diagrams by the Author

IF you have ever given the matter a passing thought you probably have marveled at the infinite number of possible arrangements by which living-room, hall, dining-room and kitchen are correlated in a convenient and economical whole. Nor is it always an economical one, largely because of a necessity for too much hall and passage space. But perhaps you have occasionally wondered at the ingenuity of the architectural profession in turning out, year after year, the infinite number of these plans, each unlike any of the others. Well, the truth of the matter is that the plans differ only in minor features. Broadly speaking, nearly every floor plan falls into one of a comparatively few types.

It is but natural, when you consider the matter,

that this is so, for after all the needs of one family of four differ but little from the needs of another of like size. After a plan has been developed to fit these needs it persists as a type and appears again and again, varying from its predecessors only in the non-essentials.

It seems hardly necessary to call attention to the fact that two houses having identically the same floor plan may show no resemblance whatever in exterior appearance. Not only does this dissimilarity come from the employment of different wall materials or color schemes, if the houses be of wood, but the character of the roofs may be utterly unlike, the disposition and shape of the windows and doors may contribute to the dissimilarity, and the location and character of the dormer win-

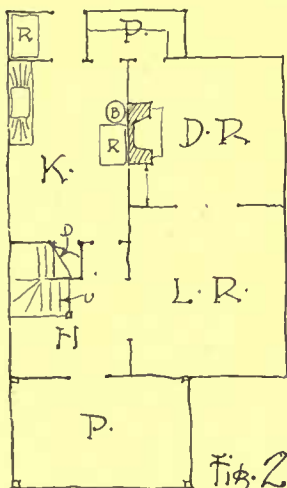


Fig. 2
The simplest type with a pantry, icebox alcove and front porch added

dows—or lack of them—may result in two houses that would never for a moment be suspected of being alike in plan. Doubtless it is largely for this reason that the prevalence of a very few type plans has not been generally recognized.

To take the simplest plan of all first, there is the inexpensive dwelling built approximately in the form of a square—the most economical shape for a house in that it encloses more area for a given amount of outside wall space. A house of this type consists of entrance and stair hall, living-room or parlor, dining-room and kitchen. In its bare essentials it is illustrated in Fig. 1. The usual modifications to this plan, giving it a pass pantry and space for refrigerator, are embodied in Fig. 2. The house has but a single chimney, in the centre, into which are run the smoke pipes for the furnace and

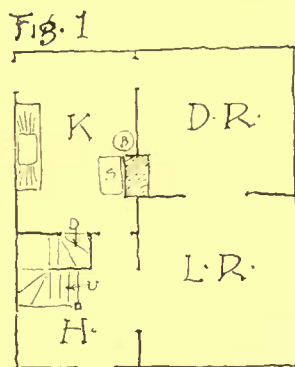


Fig. 1
The most common low-cost first floor arrangement

kitchen range, with occasionally a third flue serving a fireplace in living-room or dining-room.

More common in the better class of homes built to-day is the so-called double house, where the entrance hall is in the middle of one side of a rectangle, flanked by living-room and dining-room, with the kitchen and pantry in the rear of the latter. As shown in Fig. 3, this type in its simplest form needs but the one chimney, serving furnace, range and living-room fireplace. The plan is an economical one to build for this reason, and because it has no excrescences or ell's to increase the area of the outside wall. It has also an appearance of far greater spaciousness upon entering. Upon this type the great majority of modern homes, costing from six to ten thousand dollars, are based.

It provides the large rectangular living-room that we demand to-day, with an exposure of three sides; it gives us the desirable isolation of dining-room and kitchen from the living-room; and it permits of expansion more readily than does the square plan of Fig. 1.

Although Fig. 3 may represent this type, in its simplest form, the majority of such houses show a modification of it in the shape of a short ell, extending either to the rear or to the side and containing part of the service department. This it will readily be seen is brought about by the need of a larger dining-room, leaving too little remaining space in the original rectangle to give a satisfactory kitchen, or again, by the desirability of a cross draught through the latter room.

If we were simply to extend the kitchen to the rear of the dining-room, keeping it the same width, the resulting plan would

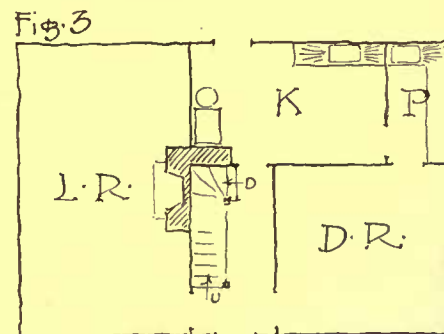


Fig. 3
The simplest form of the central hall type, where one chimney serves for furnace, kitchen and living-room

show considerable waste room in our wide hall. The natural development, therefore, is some such arrangement as that shown in Fig. 4, where a den, a reception-room, a library or what not is included. Any departure from the type as shown in Fig. 3, whereby the kitchen and living-room are no longer adjacent one to the other, means the addition of a chimney, for in these days of fireplace appreciation the living-room is hardly worthy of the name without that feature. It is apparent, therefore, that by adding an ell only, let us say, four by thirteen feet, we have gained a convenient library or den and a dining-room fireplace, but we have lost our pantry and have added considerably to our cost by the additional

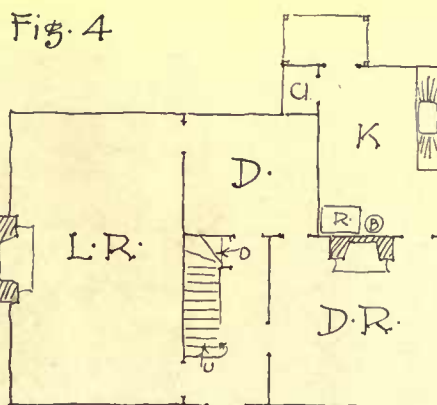


Fig. 4
Expanding Fig. 3 to a two-chimney plan and gaining an extra room at the rear

framing and the second chimney.

When a house plan approaches the size of Fig. 4, however, it is usually felt that a service stairway is a necessity. Fig. 5 shows an adaptation of the same scheme, embodying this feature and attaining, incidentally, a complete cross draught for the kitchen. The den has been sacrificed to the additional staircase and a pantry, while the rear entrance is brought conveniently near to the inside cellar stairs.

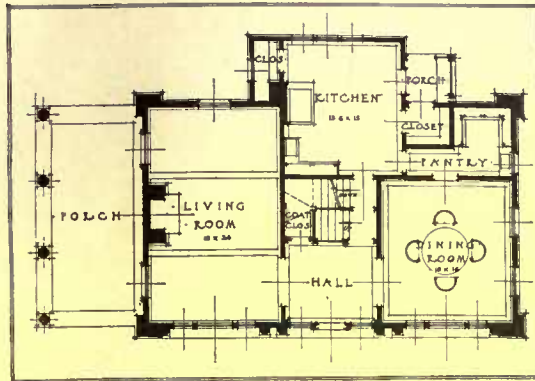
If still more space be required we come back once more to a perfect rectangle, as shown in Fig. 6. A house of this type would cost little if any more to build than the more complex area indicated in Fig. 5, for here again there is but one chimney and only the four necessary exterior angles. If the home-builder will constantly keep in mind, when preparing his tentative plans, that additional exterior angles in most cases increase the cost of the house out of all proportion to their advantages, and that one of the most important factors in successful planning is economy in chimneys, he will be far more likely to suggest a plan that will come somewhere near his available appropriation.

In order to point out more clearly the relation between actual house plans and the accompanying diagrams, three house plans are illustrated herewith, both floors being shown. In the house at the top of this page it will be readily seen that the plan of the first floor in the main conforms to the type illustrated by Fig. 3, although Mr. Embury has used two chimneys in this plan in order to get the living-room fireplace in the middle of the outside wall.

In the plans at the bottom of this page Mr. Summerville has worked out a particularly ingenious arrangement along the lines of Fig. 1. By turning the living-room around so that its longer axis centers on the opening from the hall, he has made this room larger and has given it more pleasing proportions. Here, too, a second chimney has been found desirable.

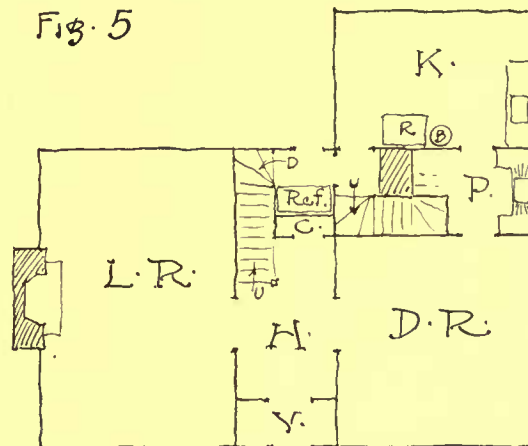
The Hollingsworth & Bragdon first floor plan above is almost identical with the arrangement indicated in Fig. 6, with the addition once more of a second chimney and the transposing of the two front rooms.

In looking over a large number of plans one may at first glance fail to identify many of these with the types here set forth. The presence of closets, offsets, inglenooks, bays and like features tend to hid the essentials. On an irregular plot, or where unusual conditions of other kinds govern the design, the plan necessarily will often indicate radical departures from these types, but that is the exception. Reading beneath all the minor details he will find, I think, that these rough sketches form the basis of most plans. For this reason they will, perhaps, be of some service in indicating how to secure a start.



An excellent modification of the type shown in Fig. 3. A far better house has been secured here by the extension of the kitchen to the rear, and it has also provided space on the second floor for a study. Aymar Embury II, architect

Fig. 5



Frequently the central hall type has an ell to gain space for pantry and second staircase

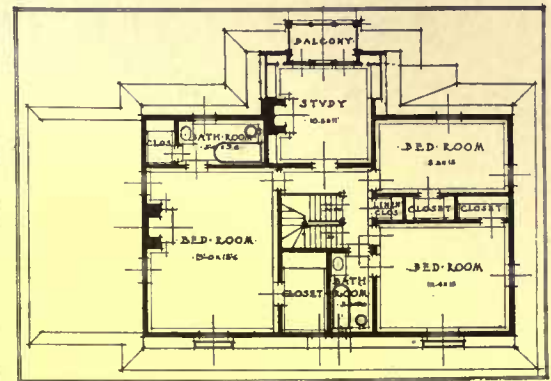
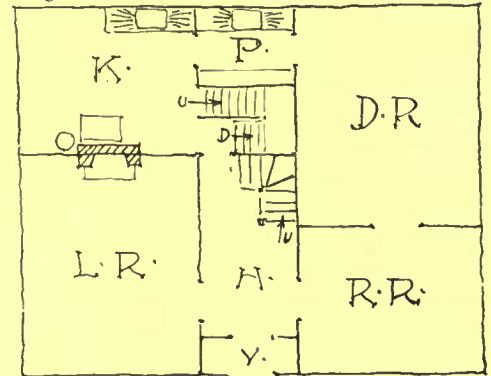
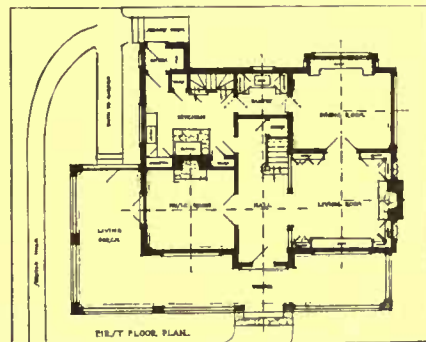


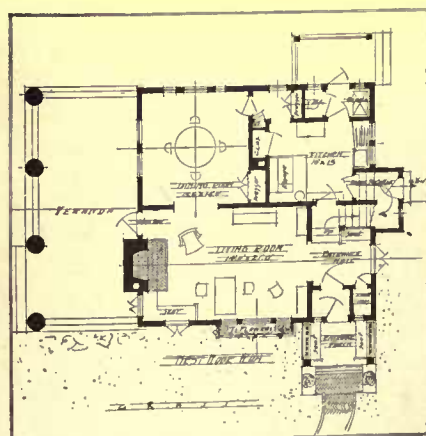
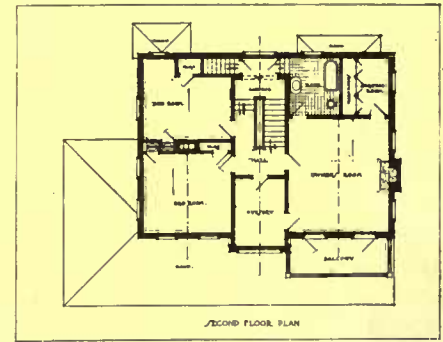
Fig. 6



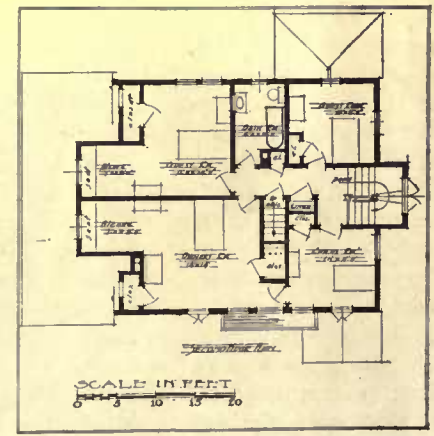
One step further in expansion gives us a fourth room and brings back the square

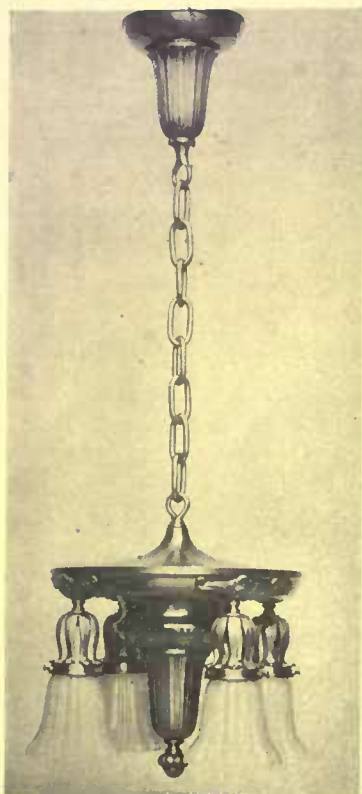


This arrangement is a very slight modification of Fig. 6, although the locations of the four corner rooms have been transposed. Hollingsworth & Bragdon, architects



A particularly skilful modification of the type shown in Fig. 1. The living-room, it will be noticed, is turned about. F. M. Summerville, architect





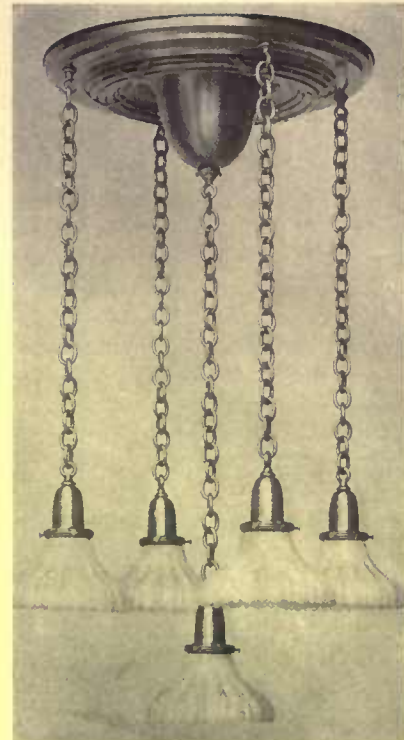
A type of four light Sheffield shower, costing \$25



For the porch light, a hanging lantern of wrought iron, costs \$12.50



Side brackets, with iridescent globes, such as this, are \$5.75



Consider the size of the chains of shower fixtures. This is the same as the double side bracket on the next page, and costs \$35

Lighting Fixtures Within Your Appropriation

BY KATHARINE NEWBOLD BIRDSALL

THERE are two ways of getting at the figure necessary to spend in providing the fixtures for one's house, but neither of them is accurate. The third way is to make one's selections regardless of cost; needless to say there are few of us who choose this last way—only the man whose bank balance has many figures; and he is apt to have specially designed fixtures, the drawings and dies for which are destroyed to prevent duplication.

The very last purchase to complete the house fittings is usually the lighting fixtures.

And the result is usually forced economy, and oftentimes the selection of those that are not a credit to mantel, furnishings, or to the taste of the builder. As a fixture dealer puts it, with considerable truth, in talking of the center light in a flat, undecorated ceiling: "The ceiling space is equal to the floor space; the floor space is covered with many objects to attract the eye—rugs, furniture, etc. The only ceiling furnishing as a rule is the center fixture, and it is upon this fixture that the eyes first focus, oftentimes the ugliest and flimsiest thing in the room, because the appropri-

tion was too exhausted on reaching this part of the house fittings, to allow of a better selection. Rather than have something unsuitable, use candles until you can find or afford the suitable!"

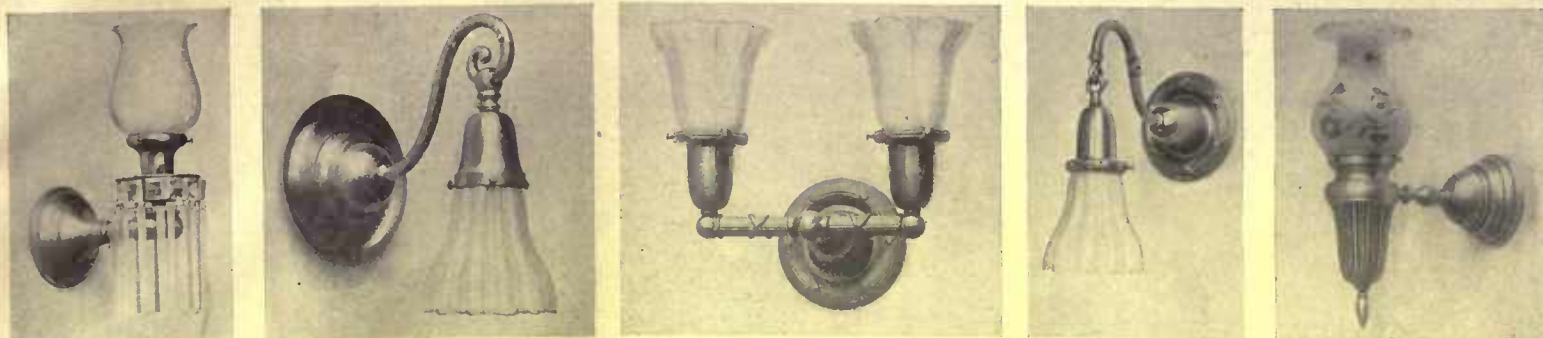
There is a difference between a "cheap" fixture and a "low-priced" fixture. If economy in fixtures is necessary, select the simple, low-priced design rather than the "cheap" imitation of a more intricate one. There is no reason why low-priced fixtures should be made of inferior metal; the difference in price should

be due only to difference in time and material in making. The lighter weight fixtures are always lower in price, and while not so durable as the heavier designs, if made by a reliable manufacturer, they are well worth while.

As a general rule one can save money by selecting the rounded designs; square tubes and figures are always more expensive, and in the more intricate designs add from twenty-five to fifty per cent. to the cost. "Shell work" or "spun" fixtures, which are hollow, are less expensive than those which have heavy castings and have been carefully molded. Many



The low hanging center light and the chandelier are being superseded by individual fixtures hung by short chains from a ceiling canopy



Types of reasonable side brackets that are of good design and construction. The first is a Colonial pattern, with crystal pendent, for \$6; next comes a bracket along Colonial lines, at \$4.50; beside it is a double fixture of reed and ribbon style, costing \$6.25; adjoining this is another of similar pattern, for \$3.75. The last, after the pattern of Colonial lamps, is with a cut glass shade, and costs \$7

fixtures are, however, a combination of the "spun" and the "cast" metal, the latter being used where the strain is greatest.

Square fixtures are made with two, four and six lights, while the round can have an uneven number. A "shower" with a square ceiling plate may, however, support five lights.

Regarding the figure necessary to meet the expense of lighting fixtures, the best way is to read this article and draw your own conclusions! There are no fixed rules to give, only the suggestion that you plan to spend less than your pocketbook will allow.

Some builders figure that on a ten thousand dollar house from two to four hundred dollars can be spent on lighting fixtures. On a twenty thousand dollar house the figure seldom reaches over five or six hundred dollars. On the other hand an old Colonial house recently fitted cost less than ninety dollars, when the owner had decided to spend \$150. A plan which works out well is to figure by rooms; you have a ten room house and allow \$18 per room. The bedrooms, kitchen, pantry, bathroom, halls, can be furnished with much economy of this \$18, allowing a possible twenty-five or thirty dollars for use in the important rooms downstairs.

If you buy your fixtures direct from the manufacturer and have an order for fifty or seventy-five, there is a chance that you may be able to get a discount.



The center chandelier, with four lights, of the so-called Sheffield style, costs \$21



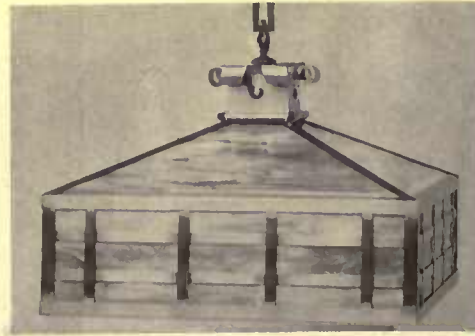
A dome light, with cut glass globe, suitable for hall or living-room, costs \$34



Often the lights are suspended from the canopy by tubes instead of chains. This style is \$31.50



The low hanging living-room lamps may be had for gas or electricity. This costs \$28



A simple drop light of satin brass and colored glass, hung by a chain with square links, is \$35

You will have decided, in having your house wired for electricity or piped for gas, how many outlets for fixtures you need for the size of your rooms; but whether you will have single or double lights on the side walls of the dining-room and library and a two or four light center fixture in the big bedroom or drawing-room, is a question to be decided when buying the fixtures themselves. A good general rule for the center is a four light fixture for a room 15 x 20. It would take four double side-wall brackets to give sufficient light from the sides of the room only. A smaller room can stand a smaller center fixture, one, two or three lights as the size warrants. The fixtures upstairs may be lighter weight than those for the first floor.

There are no special period designs made in the low-priced fixtures, except the Colonial; there are, however, a variety of stock designs to choose from, designs that are graceful and pleasing and will fit in with any style of furnishing. These designs come in a variety of finishes, which gives one a wide choice. It is possible to secure very artistic and unusual results, differing from the stock designs, by selecting a part of one fixture to be coupled with a part of another. As the fixtures shown are merely samples and your order will be made up especially, the manufacturer will not object to any combination.
(Continued on page 57)



Not the least of the advantages of the casement window is its adaptability to decoration. Panes of leaded glass may be used in variety of designs and stained glass panels employed, since there are no sashes lifting up or down to hide the pattern

The Casement Window Problem

THE VARIOUS ADVANTAGES OF THE CASEMENT WINDOW IN LIGHT AND AIR—WHERE CASEMENTS MAY BEST BE USED AND HOW THE DRAWBACKS OF INSTALLING THEM MAY BE ELIMINATED

BY J. CROW TAYLOR



IN general, the casement window is any window having a hinged or pivoted sash opening either outward or inward; in other words, any window the sash of which is hung and operates on hinges or pivots instead of operating on slides or being permanently fixed.

Specifically we are more inclined to speak of casement windows as representing that type which is hinged to swing either inward or outward, and we do not often consider in this class, though they belong there technically, transoms and basement windows and small ventilating window sash.

The mental picture that the name casement window brings to the average mind is a French door or window opening out of

a room onto a veranda, or a German or Swiss type of balcony casement window. In reality the casement idea seems to have originated with the Germans and to have developed from the old Dutch door, which was divided horizontally into two halves, the top half of which could be swung open leaving the bottom half closed. This top half developed into a sash door and out of this eventually came the casement window.

The French use more casement windows, especially of the full-length door type, than any other people, but everywhere in the older countries the casement window has long been much more conspicuous than it is here.

One explanation given for the popularity of the casement window in the old countries is that they are better joiners there and take more pains in fitting the joints and allow their timber more time to dry before working. Therefore they can make hinged windows to swing



The simplest form of casement opens outward and has a stop molding, which keeps out rain and moisture

inside without their letting in rain during storms like ours in this country.

There is no question but what the difficulty of rendering casement windows secure against storms beating rain through the joints is the great handicap to their popularity here, but it is not altogether a matter of superiority in joinery that enables the French to apparently get better results with casement windows in this respect than we can. It is more a matter of less radical changes in the climate. It may be both hot and cold there, but there are not the same extremes of moisture conditions. We can do as close joining in this country as can be done anywhere in the world, and can thoroughly season lumber. The trouble is there are such radical extremes in both temperature and moisture conditions in the course of a year that doors and windows that have been hung and seasoned for six or eight years will still continue to swell and shrink. Because they do this it is essential to the free working of doors or windows that they be made loose enough so that when they swell from the moisture condition of the air they will not be too tight to open and shut.

Nevertheless the casement window is coming into more favor in this country. Two or three years ago it began receiving more active attention than ever before, and it looked as though it would spring into immediate popularity. It did not attain the general popularity in a bound that it seemed it would, and perhaps the main reason is centered around two points of difficulty. One of these is the difficulty of properly screening a window hung on the outside, the other the difficulty of hanging the window to swing on the inside so as to make it storm-proof.

The easiest and simplest way to make a casement window comparatively storm-proof is to hang it on the outside, so that it swings out. Then it is just about as easy to fit the window as it is to fit the regulation window, because there are stops on the in-

side against which it swings, and these furnish the same protection against storms as they furnish in the regular sliding sash.

The trouble with this arrangement is that it swings the window out and it makes it difficult to screen and the screening is unsatisfactory, because it is always on the inside of the house. You cannot put a permanent screen on the inside, but must put your screen frame full length and hinge it. Then open the screen inward every time you desire to open or close the window. This is often unsatisfactory, especially where one has interior woodwork that it is not desired to mar up by attaching screen hinges to it. Where this plan is followed one should have the screen frames made of good material that will take a neat and attractive finish, preferably of hardwood, and with copper wire for the screen. Then use as high a class of hardware for hanging them as one would for hanging the interior doors. This is a good idea to follow if you already have windows that are hung on the outside, or if you feel, after studying over the matter, that this is the better way to hang them. It relieves the unsightliness of plain, cheap screens and frames and makes a much more improved appearance than one ordinarily gets with screening.

More often the ideal plan is to hang the casement windows themselves to swing inward. The one objectionable feature to this is the difficulty of making them storm-proof, but there is a way to avoid this. There are some places where it is not important that the window be absolutely storm-proof as in using them for enclosing sleeping porches and verandas. A little bit of moisture blowing through does not do the same damage that it would if blowing through into a bedroom or parlor.

You are generally prepared for and expect some of this, for porches and verandas are kept open during the warm weather, and it is expected that a little rain will beat in. There is also a

(Continued on page 54)



When screens are used inside casement windows, there are many appliances which enable the sash to be opened and closed without interfering with the screen



The casement window enables the entire window space to be open to light and air, and the hinged sash may often be used to direct air currents to the room

Making the Cellar Dry and Keeping It So

MODERN METHODS OF PREVENTING MOISTURE FROM ENTERING THE CELLAR—THE USE OF DRAINS, DAMP-PROOFING PAINT, DAMP-RESISTING CONCRETE AND DOUBLE-FACED WALLS

"OH, yes, our new cellar is going to be as dry as a bone—the walls are specified to be cemented, and there will be a three-inch concrete floor; not a drop of moisture can get in!"

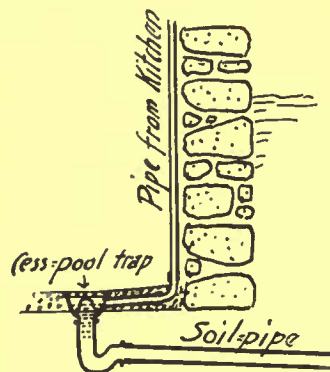
And then, when you come

BY WILLIAM DRAPER BRINCKLE

Diagrams by the Author

not to build this sort of drain, as it will probably bring the water in, instead of leading it out.

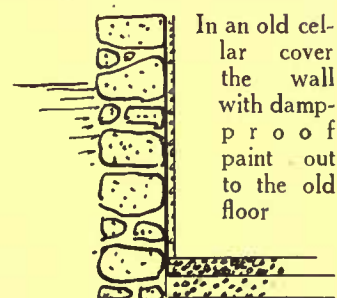
But if you want to absolutely stop all water from coming in you must lay the concrete floor *first of all*,



Have the cellar slope to a drain, the water seal of which is secured against evaporation



See that the rain leaders carry the roof water to the lower side of a sloping site, unless the foundation wall is amply protected



then build solid concrete walls on this. Otherwise you will not get a perfect joint, and the moisture will ooze up around the base of the walls. The concrete must have some waterproofing material mixed with it;

sleepily down to turn on the draughts, and step into six inches of disgustingly cold water, why, no wonder you start a lawsuit against your contractor, at the next term of court—but you lose it.

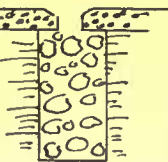
Why?

Because his expert witnesses testify that cement is not waterproof; and they are right. Even the best concrete is nothing more than a sponge—did you know that?

So, if your soil is at all damp and heavy, something more than mere cementing is needed. A drain of some sort should always be put in; a solid, well-laid line of iron or

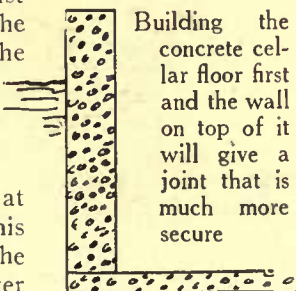
glazed terra-cotta pipe, with an iron "cess-pool trap" set in the cellar floor. The cement slants down on all sides to the perforated top of this trap; then, if any water does get in the cellar, it will run off at once.

A "French drain" may be dug under the cellar floor to take care of water



If possible, run the pipe out through some hillside; but if the ground is too level to do this, you must connect to the regular sewer system. In such case a waste pipe from kitchen sink or laundry tub must be run down into the cess-pool trap, otherwise the water seal may dry out, letting sewer gas into the cellar.

But if there is no sewer system, and no convenient low ground, a "French drain" must be dug. This is merely a pit, several feet deep and 18 inches across, filled with brickbats and coarse sand; at the top a small hole is left in the concrete floor. This will soon dispose of all ordinary water, unless the ground is naturally "springy"; in such case it's better

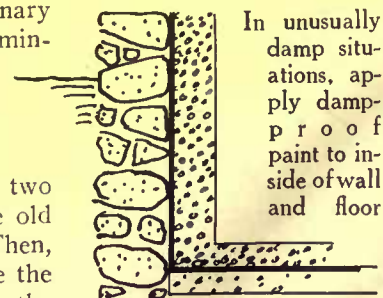


Building the concrete cellar floor first and the wall on top of it will give a joint that is much more secure

there are several sorts on the market that come for this especial purpose.

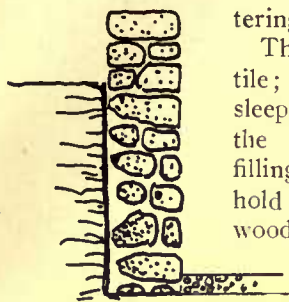
But maybe the cellar is an old one—what can be done then?

First, see that the walls are roughly surfaced up—that is, "dashed." Then, paint them with damp-proofing paint; not ordinary paint, but something made from mineral wax or asphaltum, and guaranteed to do the work. Three or four different concerns make this. The paint must be thickly smeared on, two coats of it; bring it out on the old concrete floor a few inches. Then, within twenty-four hours, before the paint has a chance to dry, plaster the walls with cement; but leave an inch or two unplastered at the bottom. Next, lay a new cement floor on top of the old one (if there is an old one), mixing plenty of waterproof with your concrete.



In unusually damp situations, apply damp-proof paint to inside of wall and floor

Sometimes, of course, one wants a thoroughly dry basement, free from any suspicions of dampness whatever—for a billiard-room, let us say, or possibly a gymnasium. In such case, use solid concrete walls and floor, all waterproofed; then, at least a month after laying, give the whole two good coats of damp-proof paint. You can now cover the walls with ordinary inside plaster—not necessarily cement—furring and lathing are not at all needful. Indeed, nowadays all progressive architects have discarded stripping entirely; the inside of a brick or stone house wall is merely damp-proofed, and the plas-

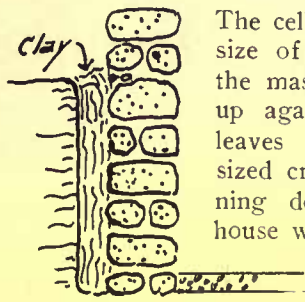


An improperly built cellar wall which cannot be rightly finished

tering put directly on this.

The finish floor may be of tile; or, if preferred, wood sleepers may be laid down on the damp-proofing, concrete filling poured in between to hold them in place, and then a wooden floor put on. Prefer-

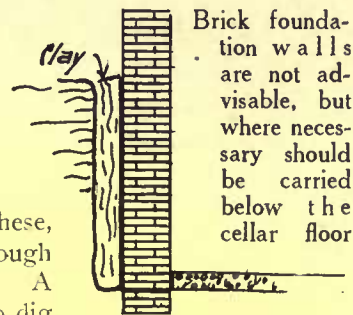
ably, this floor should be double, with rosin-sized paper under the top layer; then if any possible dampness should leak through



The excavation should be made six inches larger than the foundation area

The cellar is dug to the exact size of the stone-work; then the masons will run the wall up against the earth. That leaves a great many good-sized crevices; the water running down the side of the house will of course soon fill these, and make its way through into the basement. A

much better way is to dig the cellar six inches too large, all around; then let the mason run up what is known as a "two-face wall," properly pointed



Brick foundation walls are not advisable, but where necessary should be carried below the cellar floor

a pinhole in the paint, the rosin-paper will still keep it from the finish floor.

Not so long since, I arranged a basement billiard-room; the rough floor and walls were damp-proofed, and then finish floor and walls of brick were built in. These latter walls, by the way, were in mosaics of red-and-white brick; and very effective they were, too.

Under ordinary conditions these various methods will keep a cellar dry without any trouble; but sometimes extraordinary conditions are met with. The soil may be porous and sandy, with a river, lake, or bay near at hand; and at times, the water-level will rise above the cellar floor. It is useless to try any interior damp-proofing in such cases; the pressure will burst it away from the wall. Making an old cellar tight is nearly hopeless, under these conditions; the only possible thing is to wait for fairly dry weather, and put an extra thick layer of damp-proof on floor and walls; then, build complete new walls and floor inside the old, of water-proofed concrete, reinforced with expanded metal. It is best to get a competent engineer to design this reinforced-concrete work; otherwise, you will have your walls and floor either too thick or too thin—one means waste, and the other, failure. If the building is a new one, the concrete walls and floor should be reinforced in the same way; if not, the water-pressure may burst them in. If necessary, then can be double, with damp-proofing between.

Occasionally, it is desirable to lay porous drain-tile under the cellar floor, or just outside the walls, at the same level; but this should be done with care. If a heavy rush of water gets going through this tile, it may wash out the earth, and let your cellar floor cave in; or, worse, undermine your walls.

In a great many cases, water is led into the cellar by an improperly-built wall.

outside; afterwards, clay is rammed into the six-inch space, very tightly. And, by the way, most masons are extremely careless about filling the wall properly with mortar; they lay three or four stones, dabble a little mortar on top, and hope that somehow it will work its way into the joints!

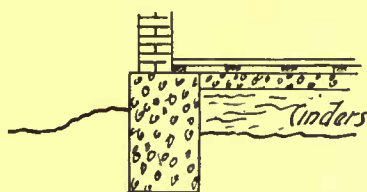
Mortar, is, I am sorry to say, too often nothing but so much dirt. Really good mortar is composed of three parts clean sand and one part cement or lime; for work below grade, equal parts of lime mortar and cement mortar are usually mixed; this is just as good as if cement mortar only were used. But the sand is very important; frequently it contains clay or loam, in sufficient quantities to make it nearly worthless. Grab up a damp handful, and squeeze it firmly; if it drops apart as you open your fingers, well and good; but if it retains its shape, don't let it go into your mortar.

Brick is not a desirable material for cellar walls, save in very dry, sandy places; it is so porous that it is virtually nothing but a sponge. If you must use it in clay soils, put down two or three courses below the cellar-floor level; then paint the top with damp-proof paint. Let the excavation be about a foot too big; then, when the wall is built, paint the outside of it with two coats of damp-proof paint, using a whitewash brush; fill

in the space with clay and stamp it down. Unless you do this, the dampness will be drawn up, by capillary attraction, clear to the top of your house; and your brick walls will be hopelessly whitened and discolored.

Cement-block is a fairly good material for cellar walls; but it is rather more porous than stone. In wet soils, it must be damp-proofed on the inside, and then plastered with cement-mortar.

But, did it ever occur to you that in a great many cases the cellar isn't really necessary, and that the best way to have a dry cellar is to have



When there is no cellar, lay waterproof concrete slabs on cinders with wooden floor above



Where a site is comparatively level the leaders are run into tiles carrying the water into barrels of loose stones some distance away from the house underground

(Continued on page 57)



Brick may be chosen not only for its enduring qualities but also for the wide field for artistic treatment. Its cost is little cheaper than that of stone

The Comparative Costs of Building Materials

BY AYMAR EMBURY, II

PROBABLY the factor in six cases out of ten which determines the appearance of the exterior of the building is the question of cost, and I find that almost every one who intends to build a house makes some inquiry as to how much more his house would cost in brick or stone than in wood, and whether some of the comparatively new forms of construction, such as terra cotta blocks or concrete are not cheaper than wood. The same answer does not always meet these questions; local conditions and factors have much to do with determining the cost of any particular sort of material, but there is one factor which is constant in any locality, and that is the comparative prices of labor in the several trades. Masons and carpenters are paid the same relative amounts all through the United States, and although at first sight it appears strange that a mason whose work includes a small range of subjects should be paid more than a carpenter who must be a skillful mechanic in a wide range of sub-divisions of carpentry, the discrepancy arises from the fact that a mason is very rarely busy more than two hundred to two hundred and twenty-five days a year, because of bad weather conditions; while a carpenter seldom loses a working day. The cost of the labor

Photographs by Mary H. Northend, Jessie Tarbox Beals, Thomas W. Sears and Others



A very good combination is made of brick wall below and stucco over brick above. The cost per square foot averages 66c

then in general is greater for masonry structures than for frame, and for buildings of the same size the masons' materials must be greatly cheaper than lumber if the whole building is to cost the same amount. Another factor which enters into the cost is that the carpenter deals in large pieces easily worked, while the mason deals in smaller pieces, or in the case of stone walls of medium-sized pieces hard to work. All the modern endeavors then at reducing the cost of masonry work have been to develop a material which was strong, light enough to be easily handled, of such shapes that little or no cutting is required, and large enough so that the amount of labor per piece is reduced; or by devising a material which could be handled

by machinery and unskilled labor, to reduce the labor cost. The most successful material evolved along the first line of endeavor has been terra cotta, and along the second concrete, and the manufacturers of the blocks, and of the cement used in making the concrete, have for the last three years been conducting an enormous and successful advertising campaign to awaken the country at large to the advantages of their several materials.

(Continued on page 60)



Where stone is used, a wall of cobbles is the most economical. Here only the end walls are stone; the rest, covered by the projecting roof, is of stucco over a frame wall. Charles Barton Keen, architect



The first consideration in deciding upon a house of stone should be the possibilities of obtaining the material in the neighborhood. The vicinity of Germantown, Pa., offers a quantity of cheap stone



Shingles over a frame wall are the least expensive material to be used. This little house is especially economical because of its shape—a square house can be built for less than one with wings or ells



Half-timbering increases the cost of stucco on lath 5c a square foot. The stone foundation here is very expensive because of the carefully trimmed stone, and at the same time is less attractive



A painted clapboard house costs about 30c per square foot of surface. On side walls painted boards are more enduring than stone or shingles



Although pleasing roof lines are obtained by use of shingles laid to imitate thatch, the cost of materials and labor is greatly increased. Albro & Lindeberg, architects

Installing a Small Sewage Disposal Plant

THE LAST WORD ON SEWAGE DISPOSAL FOR COUNTRY HOUSES—WHAT THE SEPTIC TANK IS AND ITS LIMITATIONS—THE THREE ESSENTIALS FOR SEWAGE DISPOSAL

BY HENRY N. OGDEN, C. E.
Prof. of Sanitary Engineering, Cornell University

Special Assistant Engineer New York State Department of Health

UNDER whatever form the problem presents itself, Sewage Disposal is always a question of so treating a large volume of dirty water that it shall not then or thereafter cause disagreeable odors nor, in special cases, injure the quality of any drinking water into which it may be discharged. For sewage, it must always be remembered, is chiefly water defiled with a small addition of mineral, vegetable and animal matter, the proportion being about one tablespoonful of mineral dirt and one tablespoonful of animal and vegetable matter to a barrelful of water.

The problem consists in removing from the barrel these two tablespoonfuls and doing it in such a way that there shall be no smell occasioned in the process. The cost of the process, moreover, should be reasonable. The method first thought of naturally involved a straining or sieve-action, but, unfortunately, the solids present are so fine that only a small and almost negligible quantity can be removed in this manner. Even if the strainer is made of fine sand, the results are not satisfactory, except under certain conditions, chiefly because the greater part of the putrescible material is in solution and therefore goes through the strainer uncaught.

Nature is always a wise teacher, and it needs but moderate observation to show that her method of getting rid of foul organic matter is through the process of decay. No matter whether the waste material is animal, like dead bodies or manure, or is vegetable, like wood or apples, nature, if allowed, starts the process of decay immediately and, sooner or later, only dust remains to show how nature acts to keep her world pure and wholesome. Following this suggestion, sewage disposal should consist not only of the separation of the solids from the polluted water, but also of the properly regulated decay of all the organic matter present, whether solid or liquid, so carried on that the process shall be as inoffensive as possible.

For some years it has been known that decay is the result of the activity of certain bacteria and that their action is most energetic and effective wherever bacteria are best suited with surroundings. It is also known that in the soil, particularly in the surface layers, millions of the right kinds of bacteria are always to be found. Their activity depends both on the amount of organic matter present and on an abundance of air which must be sup-

plied through the voids or pores of the soil. Thus in clay or peaty soils, with the inevitable absence of voids, no bacterial action is possible, because the essential air is lacking.

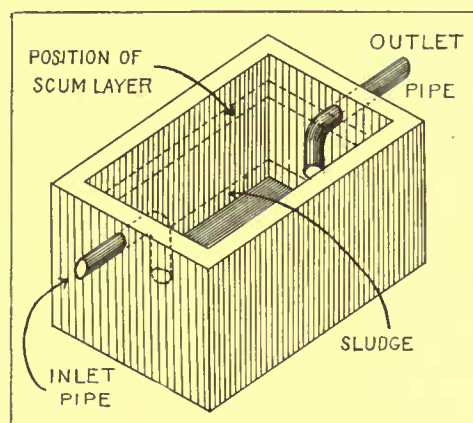
When one attempts to make use of soil bacteria in purifying sewage, the difficulty arises that their action requires time, and it has been proved that pouring sewage continuously in large quantities through or onto a coarse sandy soil is a failure because the bacteria become overworked. They may even be drowned and the soil then becomes choked with a putrid mass. On the other hand, properly managed, with due reference to the needs

of the bacteria, such a soil will not only strain out the solids, but will also effectually reduce the organic matter, both solids and liquids, to an inoffensive residue.

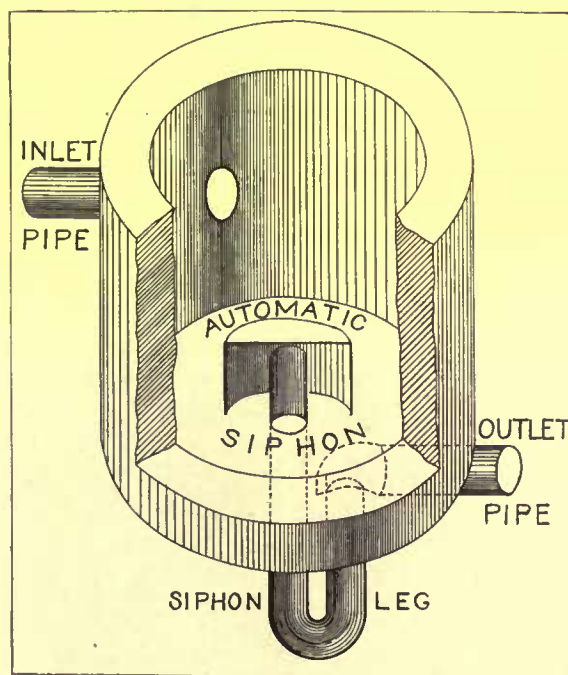
Three essential conditions have been worked out by the aid of which sewage disposal on the soil becomes scientifically possible, and it has become equally established that only by the aid of the soil can sewage disposal be made practically successful. These three conditions are, *first*, a rate of application suitable to the soil available, and *second*, an interrupted or intermittent delivery of the sewage so that the bacteria can, as it were, breathe between the applications of liquid and, *third*, a resting period in which the process of decay is carried forward and perfected.

There is, besides the practical necessity of getting a large volume of water through the soil, a necessity which prevents the use of fine sand or silt as well as of clay and suggests the use of very coarse material.

Taking up the question of rate of application, it has been found that a sandy soil in which the grains are all, as nearly as may be, of the same size and which contains no clay or fine dust makes the best sort of soil for treating sewage. On such soil, sewage will be cared for without offense at the rate of ten gallons of sewage per square yard of surface, or, since each person of a family in which water is used freely requires about thirty gallons of water a day—most of which is converted into sewage—the soil area should be at the rate of three square yards to each person. A depth of about three feet is all that can be utilized, and if no suitable soil is available an artificial sand bed can be made by hauling in sand until the proper area is provided. If the particles are made coarser, so that the liquid runs



The ordinary construction of a septic tank. Both pipes are bent so that their openings are not clogged by the sediment or scum



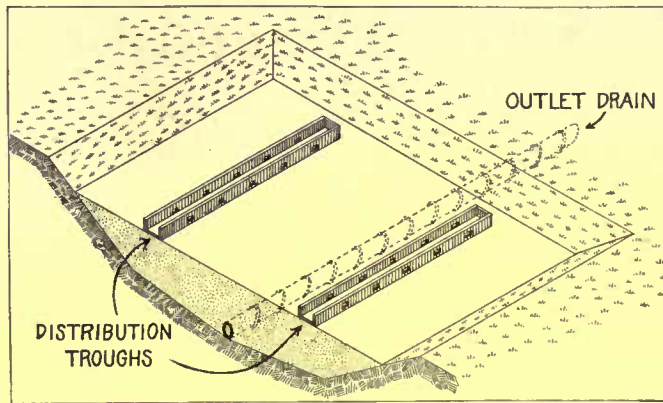
The intermittent flow chamber. The siphon regulates the liquid flowing during the day so that the chamber will discharge the right amount at intervals

more easily, the rate can be increased. Thus, with an artificial bed made of gravel or broken stone whose particles are all about the size of peas, the sewage can be applied at nine times the rate given above, or, one square yard will serve for three persons. If the artificial soil is made up of stones as large as hickory nuts, two hundred gallons may be applied daily to each square yard, or, one square yard will serve for six persons.

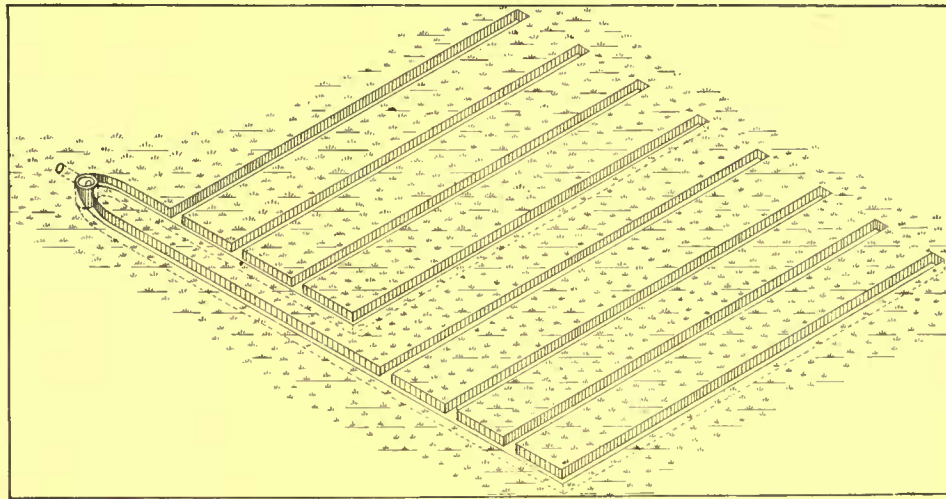
The second requirement is secured by discharging the sewage onto the beds at intervals, the number of doses per day depending on the size of the particles in the bed. Thus it is customary to run the proper dose onto a sand bed three times a day, making each dose one-third of the total daily amount. As the size of the constituent particles in the soil increases, the amount of the dose must be decreased and the frequency of the doses increased, in order to keep the beds effective and in good order. Thus with pea-gravel one hour intervals and doses of an amount equal to one twenty-fourth of the daily volume are required. With nut gravel the three intervals between doses is shortened to five minutes and the amount of the dose is decreased to correspond.

The third requirement is met by providing an additional area over that theoretically required and by shifting the flow occasionally onto this extra area. This can be done most economically by dividing the regular area into three beds and then each day shifting the flow from bed to bed in regular rotation with eight-hour periods of flow on each part. If the additional area is made equal to one of these parts, it is a simple matter to have three beds always working and one always resting. By letting each quarter rest one day in four, the greatest possible life is secured for the plant.

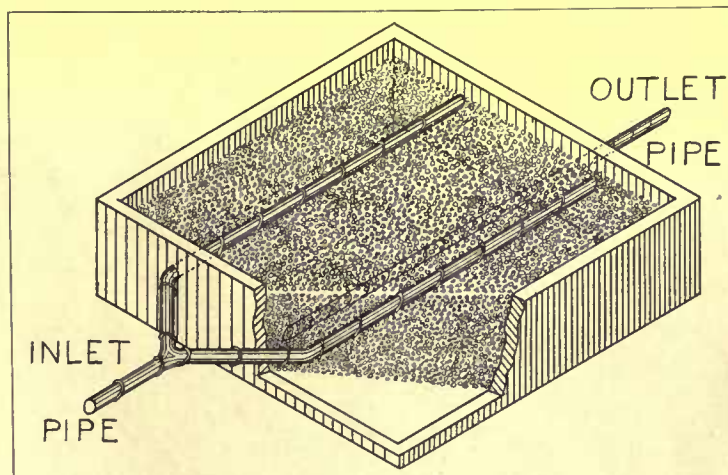
A certain difficulty has been found in operating a plant as described from the fact that there is present in fresh sewage a certain amount of greasy, slimy matter which tends to



In the filter bed the wooden troughs spread the liquid evenly over the sand. The walls slope so that the filtered liquid may be drained off from the bottom of the excavation



Ditches are sometimes dug according to this plan, when the soil works well and is loamy. At the extreme left of the drawing is the man-hole which can regulate the flow from one set of trenches to the other



Where broken stone or gravel is used the inlet pipe is divided into two lines on the surface of the stone. The sewage is discharged from openings in the bottom of these pipes

clog the surface of the disposal beds, so that, even with intermittent treatment and alternate use the air cannot penetrate to the interior of the beds, and a treatment otherwise properly designed thus becomes a source of annoyance and the process a failure. In order to avoid such surface clogging, it is customary to run the sewage through a tank with a trapped inlet and outlet, thereby removing both the grease and a large part of the solids carried. Such a tank should hold from one to two days' flow—that is, for a family of ten persons, using water at the rate of thirty gallons each

per day, the tank should have a capacity of from three hundred to four hundred gallons. Three hundred gallons is forty cubic feet, so that a tank three feet wide, three feet deep and five feet long would fulfil the requirements. It has been thought that, since there has been found to be a certain disintegrating action going on in this tank, merely passing sewage through such a tank would constitute a purification process. Under the name of *septic tank* many extravagant claims have been made for its usefulness, some writers even going so far as to say that by passing through such a tank the foulest sewage would be converted into the equivalent of spring water. But such claims cannot be sub-

stantiated in practice, and the most that such a tank can do is to hold back grease and to diminish somewhat the quantity and to modify partially the character of the suspended solids, the latter action being due to the bacteria in the tank itself. It is desirable, in order to serve its capacity, to clean out the tank once a year, although there are instances of tanks going five or six years untouched. In such cases it will usually be found that the tank has filled up to such an extent that no deposits take place as the sewage hurries through the tank in the small channel that the accumulated solids have left. During the first month of operation the tank may smell, so that it is desirable to put it underground and provide no ventilation.

(Continued on page 62)



Tiling for Use and Decoration

THE MODERN TREND TOWARD EXTENDING THE USE OF TILE TO ALL DEPARTMENTS OF THE HOUSE—THE AVAILABLE STYLES AND WHAT IS OFFERED FOR EACH SITUATION

BY RUSSELL F. WHITEHEAD

Photographs by Jessie Tarbox Beals, Mary H. Northend, Wurts Brothers and others

THE revealed possibilities of the use of clay as a building material have been many and varied. With the beginning of permanent buildings, buildings with walls and roofs, we find the problem of ornamentation for these surfaces being solved by the use of colored clay combined with a rude decoration, and the art of baking clay into tile antedates our oldest historical records.

Why the evolution of interior finish should have resulted in the development of wall tile it is not difficult to see. In eastern countries the climate was hot, interiors were dark, furnishings were few. Tile offered a surface which was cool, which reflected what little light there was, which was easily cleaned and which supplied a subject of continued interest.

The northern climate demanded warmth of texture in wall coverings, and with the use of window glass abundance of light was obtained, rendering a reflected surface unnecessary. However, there came an appreciation of the decorated clay industry in Italy which is com-

monly attributed to Lucca Della Robbia—certainly the successful development of it to a point where it could be fittingly used for important applications in association with other rich material was due to his efforts. Della Robbia discovered a method for producing opaque glazes which could be applied directly upon the body of the clay. This opaque glazed work is generally known as Faience.

The art passed on from medieval Italy to the Dutch tile makers who carried it to Holland. We are all familiar with the seventeenth century Delft tiles with their decorations in blue and violet brown. It is to the successors of the Dutch who established themselves in Lambeth that the British Isles owe their industry in this line. It may be interesting to recall that one Van Hamme was granted letters patent to make tiles in England in the early part of the seventeenth century. These tiles were known as English Delft and made in Bristol, Liverpool and Fulham.

The beginning of appreciation in America for tile use as a decorative feature traces its origin back a little more than one generation.

For a while in this twentieth century the pure and hygienic surface of the plain glazed tile was deemed appropriate for bath rooms and

kitchens only. As a matter of fact, there are few materials which add so much to the real usefulness as well as the appearance of a bath room as do tiled floors and walls. Then, as the possibilities of the color and texture were revealed and the perfectly incombustible nature of burned clay asserted itself, fireplaces were fitted with tile, and finally, as it was realized that what was beautiful in a mantel was also beautiful in a vestibule, etc., position

after position has been captured until there are few places in the dwelling where the simple and interesting surface of glazed pottery is out of harmony. We find tile used for the decoration of walls, floors, cornices, ceilings, wainscoting and friezes—tiles for laundry and pantry as well as bath room and kitchen. Large porch tile is growing in every-day use to take the place of the more expensive materials used for porch flooring. Vestibules, entrance halls are both turned over to the tiles.

Whole rooms have been designed in the material. The designer is called

upon to do an essay in encaustic painting—floors, ceilings, mouldings, in fact all the decoration become a built picture in tile.

Our story should here pass from the historical to the consideration of the practical and decorative use of the material for our own every-day problem. We are building a house, planning to build one or just dreaming one and some one has said, "use tile for this or that place or room." Are we justified in considering the material and will the final result obtained be satisfactory and within the funds at our disposal?

The present-day market offers such variety in color, size and decoration, together with a large number of surface treatments for each piece, that to be understood we think a little ought to be said about the material we are considering.

In the first place, the glaze desired determines the method of manufacture. The transparent glaze reveals the structure of the tile and the nature of its surface, while the mat glaze in its construction is thick and opaque, concealing both. There are three possible conditions of shaping the clay ware—liquid or step, plastic or clay, and dry or dust.

The clay from which the tile is made is mined and transported to the several tiling centers and is always re-



The various designs of porch tile are not only attractive in color but have the advantage of great durability and are unaffected by weather



For the rough texture brick fireplace tiles forming a various paneled design come in many patterns and colors

duced to the liquid state first. It is purified of all foreign matter such as sticks, stones, leaves, sand and particles of metal by being strained through a silk fabric of one hundred and twenty meshes to the inch. For the making the liquid material is seldom used except as a decoration or after treatment. Where a modeled or embossed surface with a raised pattern is desired the tile must be made with a die with the clay of a plastic consistency. For floor and wall tiles the tile press is used with the material in dust form.

The mat or dull glazed tiles are now in greatest demand. The texture of these tiles is dependent upon a very thick coating being applied to the tile. This makes possible certain schemes of decoration which are not applicable to bright glazes.

Tiles with a simple color glaze are made in all sizes with contrasting fields and borders. Inlaid tiles, essentially used for floors with one color set into the body of another, so that continual wear does not affect the pattern are to be had. We find these in neutralized reds, blues and yellows in simple designs. The scale of the pattern should be influenced altogether by the environment.

Painted tiles vary from crude markings to exquisitely delicate porcelains. Imitation painting in the form of printed or stencilled outline should be avoided as far as possible. The hand of the individual artist should be seen in the finished product. All tiles are fired, after decoration, in kilns, and it should always be remembered that colors have a tendency to run in the process. The beauty of painted tile lies in the quality of the design and the depth and clearness of its color.

Color plays an important part in the value of the material. Tiles are advocated on account of their cleanliness; in fact, it is one of the chief characteristics of tile that they can always be washed without detriment to their surface. It is therefore best to select tiles which have a light field for all broad surfaces, either faint tints or pure white. For fireplace facings, fountain niches as a background for lighter materials, and for floors the dark tiles are to be preferred to the lighter ones.

There are certain pieces of tile used for inlay or special decoration which have all the finishes known to the artist and manufacturer.

There seem to be reasons both practical and sentimental for the use of tile in the various places advocated for it. It should be remembered, however, that a first essential in the use of tile is that it should be used in combination only with materials with which it has points in common. By this we mean all clay products such

as brick, terra cotta and porcelain. Big stones and large surfaces of bright metal do not lend themselves to association with tile. Wrought iron, however, and stone or metal in small pieces make a happy combination. For fireplaces tile seems most appropriate. Tile is a product of fire. It is fire made, fire proof and associated with fire in all ways. Again when we think of tile for our porch floors we remember that it is only a step from the walk or lawn onto the porch, and that tile is closely related to earth, its source being the earth. The cool, inviting texture of a tile floor, together with its wide range of colors, lends itself to almost every architectural scheme.

The little touches of color which tile offers for relieving the uniform surface of concrete, both interior and exterior, is worth mentioning. A tile decoration is both appropriate and durable, and the range of colors and design offer one's architect a great opportunity for attractive designing. The inlaying of tile in concrete has been done for ages, the Byzantine school making free use of this method of offsetting the monotony of the plain surfaces. We feel, however, that unless properly han-

dled the architecture of such buildings loses a certain amount of dignity.

In comparing the cost of tile with that of other materials one should understand that tile is an imperishable product and so



Modern tiles may be had to give a rich texture as well as color and often supersede the use of carved panels about the fireplace



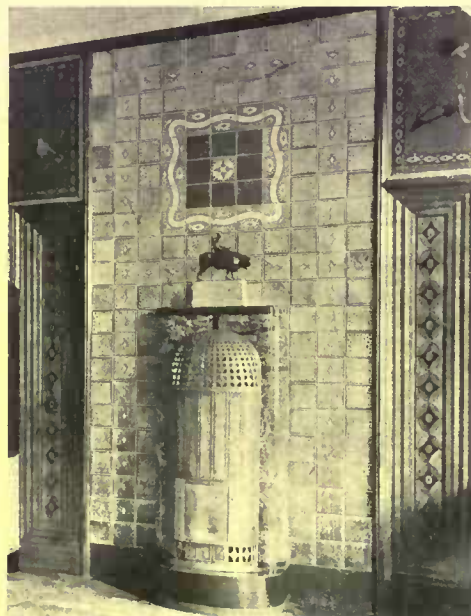
Where the tiles are uniform in size an interesting decorative feature is obtained through the use of various shades of the same color



Where the appearance of hand work is desired the tiles are of varying sizes and each of different hue from its neighbor



One needs not expect a bathroom to look like a hospital where tiles are used



The Germans are partial to the glazed tile which they use in infinite variety



A tiled bathroom which gets decorative effect from laying tiles in herring-bone pattern

"first cost" is the only one to be considered. Tiles chief cost is in the labor employed to lay it, and this labor is about the same no matter what material is used. Exact figures, as one will readily see, are impossible because both cost of material and cost of labor vary in various parts of the country. The very best method to arrive at the actual figures is by obtaining estimates, cheerfully given, we feel sure, for your work in the materials which would be appropriate. Tile will be as cheap, and if it is well laid will surely give entire satisfaction.

Its great durability, then, is the point of its "reasonableness"; whatever floors are subjected to rough



Tiles often are used for this entire fireplace and mantel. Here they have all the beauty of bas-relief carving

not scratch. If properly set, that is laid by an experienced tile setter, a tiled floor is virtually everlasting. Knocks and blows incident to moving furniture and baggage to and from the house, and to moving about of chairs and tables make no impression upon the hard clay tile. Therefore on the laundry, porch, bathroom and conservatory floor the important item of repair work is eliminated where tiling is used. The fireplace, too, is not scorched or warped where made of tile, and the danger of the mantel catching fire is entirely eliminated. Such facts make tiles cheaper by far in the long run.

It is not easy, we know, to dissoci-



The laundry has the stamp of cleanliness when tiled

usage, to constant splashing of water or to liquids containing organic matter that wood is likely to absorb and thus become decayed, are made much more lasting when tiled. The clay tile is baked so hard that even the steel nails of the shoe, which are the most destructive agents of wooden floors, can-

ate the thought of tiled walls from the bathroom. Even colored tiles are unconsciously relegated to the soda fountain and the hotel. However, a new concept has arisen. The modern texture-glazed tile of tender hue is available for the whole of the home from vestibule to boudoir.



Tiles remove the evils of wet floors in the conservatory or sun room



Borders of patterned tiles used in repetition add the touch of color which takes the dull from otherwise bare bathroom walls



Unfinished plaster walls should be used only where the woodwork is of such character that it is decorative in itself



The semi-informal room as here, where there is a roughly finished fireplace, may well have a rough surface plaster wall



In this house, the brickwork and the cypress would be too heavy for delicate wall treatment, and the plaster is rough and undecorated



Here the walls have the suggestion of massiveness, so rough plaster is used, which permits a relief frieze in colors, but of the same material



Where there is delicately carved woodwork, the walls should not have an informal treatment. They should be finished smooth and papered



White woodwork requires a touch of color. The walls in such rooms as this should never be finished with rough plaster

ROUGH OR SMOOTH PLASTER WALLS—WHICH SHALL IT BE?

The Naturalizing of a City Man



Editor's Note:—The author of this narrative—begun in the December number—had refused to write the story of his experiences in going from business life to a farm. His objection was that the published account taken from his closely written diary would contain nothing of the joy and inspiration he felt in getting close to Nature, and would be merely a matter-of-fact list of happenings with their message lost. He finally consented to write it in his own way, allowing memory and imagination to lend color to those days of struggle which are now cherished recollections. He preferred to hide his identity under the disguise of another person, but the essential facts are true and full of practical information. This is the second installment and describes the first activities in the city man's country life. Subsequent issues will give further details of how their problems were met and overcome.

BEFORE the big fireplace at Pandora Cottage five chairs were drawn up to the solid-looking, battle-scarred kitchen table, which now occupied a position of honor in the dining-room.

It should be explained in passing, I suppose—for the sake of those ignorant folk who have spent all their days in town—that it was a dining-room for three short periods each day. At other times it was put to the various uses of reception-room, living-room, sitting-room and library. It had been, from ancient times, over-worked more than any other room in the house. This was a fact that a modern household economist might ponder over, unless he chanced to have been brought up out where the wind has room to get up speed between stations, and the result of poking one's nose into the company front parlor was a shuddery "br-r-r!" and a hasty retreat to the one room in the house where a civilized temperature was maintained.

But to return to the kitchen table which, as has been said, was a rough-appearing but exceptionally substantial piece of furniture, evidently built many, many years before anyone ever thought of making the flimsy kind one so often sees nowadays. Around it were gathered the Mantell household, including the children and the hired man.

This hired man seemed a special dispensation, as he continually evidenced new fields of information, but for some time the circumstances of his arrival had remained a mystery. Concealment from the woman of the household, however, was impossible for long, and the secret eventually came out, whereat Mr. Mantell was good-naturedly twitted and the man was instantly dubbed Raffles for his nocturnal entrance. On the first night spent in Pandora Cottage Mr. Mantell had been awakened by a noise in the kitchen, and with some trepidation he had taken his revolver and gone to investigate. His entrance to the kitchen had revealed a man roughly clad and dripping wet whom he at once ordered to throw up his hands. But the interloper was in no wise disconcerted at the show of force, and soon convinced Mr. Mantell that he was unaware that the house was occupied and that he had no other intentions but to seek shelter. As he put it, he had been squatting there for a few weeks as "self-appointed janitor" while

he had been doing some work in the vicinity. The man's bearing and appearance and his rather naïve appeal to Mr. Mantell's judgment of men led him to act hastily and decide to hire him. This

he had not told the family because he did not wish them to be disturbed by the thought of anyone's entering the place by force.

So Mr. Mantell, as he surveyed the group, smiled quietly to himself. Here was the strangest directors' meeting he had ever sat in. But it was just that: they had met to discuss the problems which confronted their new enterprise, and these problems were many and diversified.

It was New Year's Day. The morning following Christmas Mr. Mantell and his wife and their hired man, acquired under such peculiar circumstances, had had a

long and serious talk. The result of it was that Mr. Mantell had decided to cut loose from the business world, jump clear of the overcrowded decks of the city steamboat, and sink or swim in the billows of his newly-discovered farm—which is a bad metaphor, but not so mixed as it seems.

With a naturally vigorous mind sharpened by years of business experience, Mr. Mantell's action never lagged far behind decision. He took the afternoon train to the city, and in three days had disposed of his business to the combination of competitors who had driven him to the wall, sold his property and returned to the country with the few hundred dollars he had left after cleaning things up.

The opinion of his enemies was that he had lost his grit. His friends considered him all kinds of a fool, for several good positions were open to him. Neither, however, were correct. Mr. Mantell had not lost his grit: he was of the sort to whom that quality is not a matter of conscious effort but temperamentally inevitable. He realized that the conditions of business in the line in which he had been engaged made it impossible for him to fight the combination, and he preferred to get into something else rather than accept a subordinate position. He had also gone far enough to realize that every step up in the world in which he had lived meant a corresponding "higher," and more expensive standard of living, with the net result in comfort, happiness and true enjoyment about the same. Naturally, he preferred the country.



Every branch was capped with its burden of white; and the pines and hemlocks were tents of wonder with the suggestion of strange retreats beneath their low bent branches

His friends, of course, were willing to grant all this. They considered him unwise because they did not see how he could make good at the new undertaking, whereas if he started all over again in the city, in the game in which he was trained, a reasonable success was, in time, certain. But there was something to be said on the other side. Although he knew practically nothing about the methods of the work into which he was about to plunge, he realized several facts that to him justified his decision. First of all, men of meager ability and not over energetic were able to make at the worst a sure living from the soil. Discomforts, inconveniences in plenty they put up with, but there were many compensating advantages. His knowledge of business methods would give him a big advantage over most of his competitors. He could see that the farm to which he had so strangely fallen heir was, although at present undeveloped, much better than the average.

He was convinced that the man whom chance had thrown in his way had a practical knowledge of the things to be done. He could see that a good local market, in the industrious and growing town of Priestly, was awaiting for some one. And last, and by no means least, he had in Mrs. Mantell a capable partner who was firmly confident in the undertaking.

Robert and Helen were at the explosion point with excitement. It was due to the argument of the hired man—whom they quite worshiped, that they were present at the conference. It was a good move; nothing could have more thoroughly enlisted their earnest support.

The humor of the situation was apparent to Mr. Mantell. He smiled broadly as he rapped on the table and said:

"We are called to order. I suggest that Raffles, as he knows more about the business in hand than the rest of us, take the chair."

Raffles, however, a little self-conscious, declined. "My only reason for being here at all is that I may be able to give a little information on things you don't know about. Please consider me," he added, coloring a little, "not a member of the board, but simply as manager of the manufacturing department, say, called in to furnish a little technical information."

Mr. Mantell glanced quickly at his single employee. Every day he wondered more where and what this man had been, but only the most general statement as to his past doings could he get from him.

"Let's not waste any time on formalities," put in Mrs. Mantell, "there's too much to do."

"Well, then," said the head of the house, taking out his pen and jabbing holes in the pad before him, "the situation is just this: we're here to start a new business. We have a fairly good

manufacturing plant, though it's in more or less run down condition—that's the farm. Then we have buildings that are in fair shape, and adequate for our present needs. Of machinery there is practically none at all, either implements, or stock, which, as I understand it, is an important and expensive part of farm machinery. We have very little capital, no credit, and a good but undeveloped market. That is the situation; what are we going to do about it?"

"Well put," exclaimed Raffles; "that's getting down to brass tacks."

"I would like to ask, in the first place," said Mrs. Mantell, "what you would do under similar circumstances in an ordinary business?"

"Well," answered the chairman, "we would figure out what we thought we could sell, what it would cost to produce it, and what the running expenses would be, what salaries and wages would demand, etc. That would give us an idea of how much capital would be needed. If we didn't have enough, we'd form a company and try to raise the balance. With a good proposition we could probably do it."

"And what," asked Mrs. Mantell, again turning to Raffles, "would the average farmer do?"

"That I cannot answer definitely," replied the manufacturing department manager. "I have never been one. I think he would buy a horse, and a couple of cows. He would not bother about making any definite plans. In the spring he would plow and sow about what his neighbors do. He would aim, in a general way, at getting a few more cows and shipping a can or two of milk to the city. He would not know what it cost him to produce it. He would continue to work along in an indefinite way, and at the year's end could not tell you whether his business had shown a loss or a profit."

"The business man's way certainly sounds best," said Mrs. Mantell.

Raffles laughed. "I know," he said, "but the funny thing is that at the end of four

years you would probably find the farmer still plugging along, while the chances are that the business man would have failed!"

"That doesn't sound very encouraging for us," said Mr. Mantell.

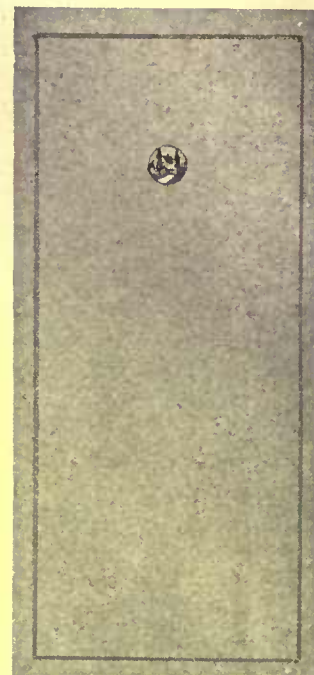
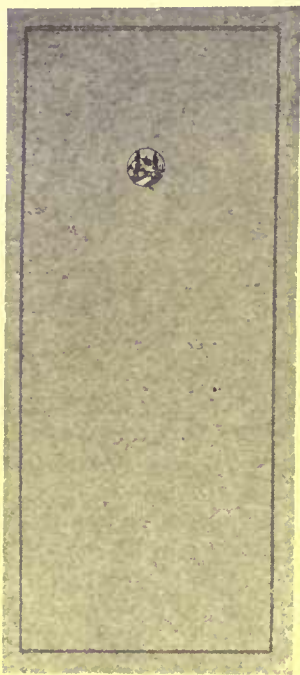
A long discussion followed, in which Raffles, as everyone called him, explained more fully what he meant, and that he thought in the present instance they would be in a position to combine the theoretical and the practical, or rather to do practical farming, but to do it in a business like way as possible.

The result of the conference was that the business was

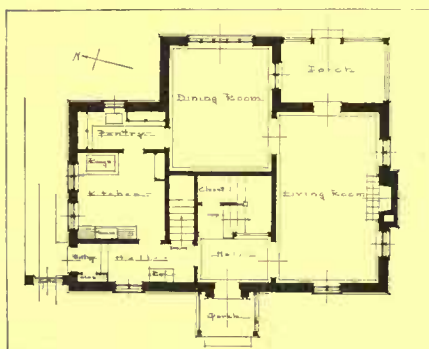
(Continued on page 65)



The endless vista of trees and snow far-stretching, the palpable, unbroken silence awoke the primitive in the man



The problem of the inexpensive suburban home is solved in these two buildings, the work of Oscar C. Gottesleben, architect, the owner of the brick house. The stucco house is of the same plan and dimensions with the exception of minor changes on the interior finish



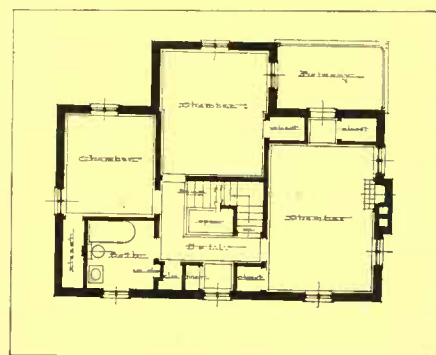
Very little room is wasted on the hall space. The main hall is but 5 by 8 1-2 feet

TWO HOUSES FROM *the* SAME PLAN

The plan shows it was desirable to have the living rooms on the southeast portion of the house and have the entrance, stairway and hall to the northwest, while the dining room is secluded on the opposite side, and gains the morning sun. In the future, a fine view will be had of the garden 100 feet deep, from the five casements on the east side of the room.

The pantry and kitchen arrangement is so simple that it almost forces a good working combination; good light and ventilation. Two doors between the living rooms, and a direct draft east and west, if the kitchen doors are opened, makes an almost ideal place to keep a good maid.

The central stairway makes a small hall upstairs possible and leaves space for three large airy chambers, one 12 by 16 1/2 feet, 12 by 14 feet and 10 by 11 1/2 feet, and bath 7 by 8 feet, with ample closets in all rooms and in the hall. The one in the bath extends full door height and contains the bath brush, hot water bottles, etc., so that the bath room is always a very neat and tidy place. An 8 by 12 foot maid's room is on the third floor with ample store room besides.



The central stairway gives room for three large chambers upstairs—the outside chimney takes no space from the room



One point of note is the good finish of the rear elevation, which is of equal dignity with the front



The light pottery colored brick with wide joints makes the wall surface appear large. The arbor will be covered with climbing roses



The houses make an interesting comparison of use in deciding upon materials. Both are almost identical except for the roof cut away on the stucco house and the addition of a dormer. The two service entrances are desirable additions, each in good keeping with its style of house



Although the hall is small, its simple grey wood adds apparent size

Oscar C. Gottesleben, architect, Detroit

The casement windows swinging in are an example of another way to obtain watertight windows of this class. (See page 32.) They have a specially made brass catch which jams the sash into rebates (the step-like edges each on a different level like those on a refrigerator door), thus making the jambs weather tight. They are narrow and therefore do not swing into the room more than 7 inches, the remaining 8 inches are taken into a deep jamb. The screens on the outside avoid the annoyance of having neat cretonne and linen taffeta draw-curtains soiled on the wire which has a remarkable attraction for dust and dirt. In the matter of plumbing, the fixtures are all about one "stack" or main drain and vent pipe, so that the economy is carried to a point of perfection in that respect. The basement has a toilet and laundry tubs just under the kitchen sink. A large area to the east lights the laundry sufficiently, as the low setting of the house makes the other basement windows rather small.

The conjunction of the agreeable and the practical has been a condition that was constantly kept in mind while building this little place on a common city lot only 50 by 171 feet in size. Its itemized cost is as follows:

Masonry	\$1,900.00	Electric fixtures	\$ 80.00
Carpentry	1,450.00	Hot water heating	400.00
Painting and glazing.....	175.00	Hardware	75.00
Plastering	228.00	Decorating	125.00
Tiling	44.00	Walks, fence and sodding..	140.00
Galvanized iron work.....	54.00	Plumbing	365.00
Electric wiring	55.00		
			\$5,091.00



The mantel in the living-room is of waxed red gum with irregular tiles



The stucco house has another adaptation of the Salem doorway. Both show different and appropriate uses of lattice



The rear of the stucco house has a different porch and window treatment from the brick. The stucco is applied over 12-inch brick walls



Inside the House

Timely Suggestions and
Answers to Correspondents



The Editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope

For Damp Corners

NUMEROUS devices have been resorted to in the attempt to sweeten musty places in cellars, or in closets that back against a brick or stone wall which becomes damp after rainstorms. Food kept in such places is unfit for use when there is any indication of mustiness or mouldiness. Charcoal and quicklime are known to be the best purifiers, and dry copperas and plaster and borax are also appreciated by the practical housewife in absorbing dampness and sweetening and purifying musty corners where it is sometimes impossible for sunlight (Nature's best purifier) to penetrate. It frequently happens, however, that even the most practical of these conscientious homemakers does not understand the best devices for applying the various remedies.

The best plan for utilizing charcoal in the food closet, or in the cellar bins where fruits or vegetables are kept, is to suspend it in a net bag. Any coarse open net will be satisfactory. Make a number of bags sufficiently large to hold several large lumps of charcoal. Do not powder the charcoal, but fill the bags with the lumps, and after they have had an opportunity to display their marvelous power to absorb all sorts of bad smells and mustiness, and leave the atmosphere pure and sweet, their usefulness will not be over.

It must be remembered that the power

of charcoal to serve its purifying purpose is strictly proportioned to its freshness; and the freshening process is restored by heating. At least once a week take the charcoal bags down, empty them in a fire pot kept for the purpose and heat the charcoal very hot. The freshened lumps may then be restored to the net bags and serve a new period of usefulness.

The most ingenious device for absorbing dampness from cellar and closet walls is found in a simple home-made contrivance in the form of a plaster-and-lime pad. Boxes of lime and jars of plaster are frequently set in damp corners, or near damp walls, with good effect; but their useful properties are not fully secured unless these disinfecting and purifying absorbents can be placed in the best form to be effective and easily handled. In the form of a pad with the layers of lime or plaster (or a combination of each) evenly distributed, their absorbent qualities will be more than doubled.

The simplest plan for making these pads, for equal distribution of contents, is in the form of a quilted bag. Bags a foot or more square will be a convenient size. Simply make a number of cheesecloth or thin muslin bags, on the sewing machine, leaving one end open. Then run rows of stitching about two inches apart the full length of each, and with a small funnel fill these compartments with the lime and

plaster. Run a string through the upper section of the pad and hang by the two upper corners, keeping the pad even and smooth against the wall. Only those who have tested this device can realize the value of the lime and plaster pad as an absorbent.

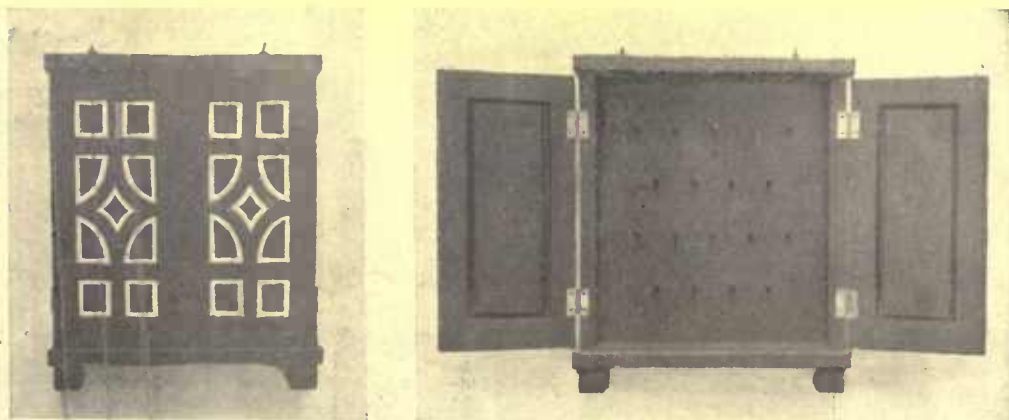
A Useful Key Chest

A SMALL piece of furniture that will prove particularly useful in country houses where there are numerous doors to be kept locked, is a key chest that is designed to hang on the wall. It is only about fourteen by sixteen inches in size and is fitted with double doors which may be locked. The four rows of wooden pegs will hold any number of keys, all that are likely to be used in the average house at least, and as a permanent receptacle for these easily lost articles, the key chest should prove a decided factor in the saving of time and temper.

The chest shown in the illustration is quite an ornamental bit of furniture. It is made of rather heavy wood and the doors are decorated with a number of panels in different shapes, outlined with small strips of willow. The same idea, however, could be carried out in a much simpler chest, put together by any amateur carpenter, and fitted with hooks that screw in instead of the wooden pegs that require more expert work. Whether provided with doors that lock or not, the important thing is to have a definite place where the keys are kept, and where they may be always found.

Steam Heat Precaution

I HAVE found that some people run with very little water in their steam furnace, thinking that it steams better with a small amount. This may be so, but it is a dangerous practice, for it will astonish the average person to learn how fast the water will disappear at times if there are any leaks in the radiator valves which allow the steam to escape without condensing and so returning to the boiler in the form of water. Then there is also the likelihood that a person will forget to put the water in, and if it is always kept at a



A useful key chest, which has pegs enough to hold all the keys needed in the ordinary household, and which should prevent the awkward situation of a lost key

low level a burnt out heater will often result. Keep a good amount in the boiler.

It is also a bad practice to turn the city pressure on and then to do something else, thinking to return in time. I have known of two instances of this kind where too much water was allowed to enter. It must be remembered that if this is done the water will ascend to the rooms above and run out through the radiator air release valves, damaging ceilings, floors, etc., to the owner's cost.

To Clean Enameled Ware

FOR a long time we were bothered with the red water stain which formed on our white enamel bathtub by not knowing any means of removing it. At the suggestion of a chemist we tried a few drops of hydrochloric acid. It worked like a charm, and removed all traces of the stain. We now keep a little bottle of the acid on hand, and on cleaning days we rub off any stains that there may be.

A Novel Waste Basket

AT the side of my mission desk I have a trout-basket, stained of a corresponding color and fastened to its side. This I use as a waste basket. It has the advantage of having the small opening in the centre of the cover, through which I put my waste paper, and there is never an untidy looking waste paper basket around.

Bathroom Scales

ONE of the most ingenious devices among this year's "Made in Germany" productions is a bathroom scale that is diminutive in size, but will register a weight up to two hundred and seventy pounds. It is made of iron, painted white and ornamented with gold paint, and is not as large as the ordinary kitchen scale. The base is only six by eight inches, and the whole thing is nine and one-half inches high with a top just large enough for a person to stand on. On the front of the scale, underneath the top, is the circular dial, the figures of which are reversed, just as they are when seen in a mirror.



The numbers upon the dial of the bathroom scale are in reverse order so that they will be reflected naturally in the mirror

A hinge piece, corresponding in size to the front of the scale, is held in place by a small brass chain, and contains a mirror in which the dial is reflected. As the dial figures are reversed the reflection is of course correct, and the mirror is held at such an angle that a person standing on the scale has only to look down and read his weight. When not in use the mirror can be folded in under the top and the scale unobtrusively tucked away in a corner with no danger of breaking any delicate parts, as the construction is strong and simple and the mechanism well protected.

A Bird House

AN unusually picturesque little house that ought to prove alluring to nest-building birds is like a beehive in shape, with a covering of straw that gives it the appearance of a newly thatched and very tiny hut, of the kind usually associated with pictures of jungles and savages. It is



This bird house is a picturesque addition to house and grounds, and, though of straw, is very substantial

built on a substantial bottom of thick board, so that it may be securely fastened to the top of a post, a corner of the roof, or any other elevated place that may be selected. The only opening is a small square hole at the bottom, but the quarters are commodious and weatherproof, and the house has at least the distinction of being attractive looking and quite out of the ordinary.

Fireplace Protection

A NEW hazard has arisen in the device now being attached to kitchen ranges for the disposition of ashes. A funnel is provided underneath the grate extending through the floor into a receptacle in the basement, the idea being to avoid the trouble of taking out ashes in the ordinary way. This entails a serious hazard unless the pipe in passing through the floor is insulated by a protecting sleeve, which

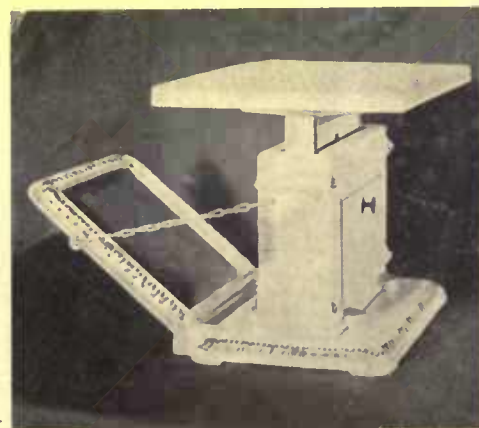
will afford an air space between the funnel itself and the floor, while it is very important that the basement receptacle should be of a standard character, carefully installed.

A Water Purifier

WHEN we bought our country home we were delighted to find pump water as well as spring on the place. We had the springs piped to bathrooms and kitchen, but reserved the well water for drinking. We accordingly had the well pumped out and the water analyzed. When the report declared the water to be exceptionally pure, we began using it on the table, only to find in a few weeks that there were tiny black, sooty particles floating around in it, and that a slightly unpleasant odor and taste were becoming more and more pronounced. So we again sent to the laboratory a sample which was returned with the report, "harmless, but filled with algæ—non-poisonous." To destroy this "fresh-water seaweed" we were advised to have the water again pumped out and a bag of blue vitriol suspended in the well. Knowing blue vitriol (sulphate of copper) to be such a deadly poison we were more afraid of the cure than the disease until we learned that the city water was subjected to the same treatment, a bag of vitriol being tied to the end of a boat which was paddled around the reservoir and so distributed through the water. We therefore suspended a bag holding five cents' worth of blue vitriol in the well, stirred it around frequently and found that it really did destroy the algæ.

Cleaning Suggestions

SAL-SODA is used a great deal in cleaning pipes, since the soda acts immediately upon the grease. It can be used in powdered form, though the best method is to put it into a kettle of boiling water and pour it into the pipes. It is cheap and should be purchased in large quantities for such purposes. It is excellent for scrubbing unvarnished woodwork, and is said not to hurt the hands.



The scale takes up little room and performs its service just as well as a large one. The weight is read in the mirror



Garden Suggestions and Queries



Conducted by
F. F. ROCKWELL.

The Editor will be glad to answer subscriber's queries pertaining to individual problems connected with the garden and grounds. When a direct personal reply is desired please inclose a self-addressed stamped envelope

January

AT this time of the year one is very likely to think "Oh, there's nothing I can do now. Everything is frozen up tight as a drum; you can't even see the garden. Let's forget it until warm weather begins to come back."

Have you forgotten last spring? Do you not remember how the man who hauled manure to your garden was a few days late; how, consequently, you were not able to get it ploughed and prepared quite as early as it should have been done; how you waited until the last minute to order your seeds, and then had to do it in more of a hurry than you wished; how some items were substituted because the particular thing you wanted was sold out; how you got the lima beans in too early and the early peas too late; how in the April rush you finally had to get things in any old way, and had too much of some things and others were left out altogether, for lack of space or of time in which to plant them?

I have planned and planted my garden a good many years. I have never yet had the job done to my entire satisfaction. Always something is not attended to quite

on time, something left out. But one thing I have proved, to my own satisfaction at least, beyond a doubt. *Every hour spent in planning the year's work ahead saves several hours in carrying out the work.* Each year I do it more carefully, more in detail, and farther ahead. I think I am working in the right direction.

Planning the Year's Work

IT seems to me that the first important step to discover and decide is just what are the best things for you to do. With that once settled, you can surely find out *how* to do them. It is the drifting along, trying-to-decide-as-you-go policy, that fritters away your spare time.

I may seem to over-emphasize this point. I want to. It deserves all the attention I can attract to it. I know, just as surely as I know that good beans will sprout, that if you will select a few definite things to *do this year*, either in strengthening your garden or improving your grounds, next January will find you with more accomplished than in two years of general lazy "thinking things over."

remember that the whole "secret" of successful propagation is "temperature." Keep it low, 75 degrees, the highest, unless for grape vines. These will bear ten degrees higher. Cuttings from old wood need less attention, but success is less uniform and plants are not as good.

The "saucer system" is as good as any. Use sand in a half liquid state, place your cuttings close together and never allow them to dry out. Place your saucers in a window "entirely exposed to the sun and never shaded." Keep your sand in "condition of mud" until your cuttings are rooted, which will be in ten to twenty days.

Planning the Garden

WITHOUT doubt the most important of the various items suggested is planning the garden. If you were careful enough to make notes on last year's garden, get them out, and your work is easy. Otherwise you will have to trust to memory and do the best you can. Did you have too many string beans? Too few transplanted early beets? Go over the list, vegetable by vegetable, and decide on the quantities you want.

Then go carefully, sticking close to the



During the winter the apple trees need attention; suckers must be kept off and tangled, rubbing limbs removed

Propagation of Plants by Cuttings

GRAPE vines, roses, bedding plants of all kinds, evergreens, etc., etc., can be successfully rooted with a little care. The best time is between the months of October and April, preferably the first of March, especially for the grape vines. Use sand. Any kind of sand will do except sand from the seashore. Use the cuttings of the "young wood"; that is, young shoots that are formed by starting the plants in a temperature of from 40 to 60 degrees. In the case of roses use short shoots that do not show flower-buds. The time when they are of the proper degree of hardness is determined by the flower-buds on the plant just beginning to develop. But with bedding plants generally you cannot get the cuttings too soft.

In making cuttings cut less than an inch below the joint, push down to the leaf if hard enough—if too soft use a thin knife to mark out the sand, so as not to injure the cutting. Water with a fine spray, and



The same tree shown in the opposite picture after it has been properly pruned and cut out to an open head

tried and true sorts, and select the varieties. Don't attempt to include everything in the catalogue. Take the statements you find there at considerable discount. It's a pretty safe rule to try anything new its first year in packet amounts only.

Then make a plan of the garden, to scale, and decide the location of everything that is going into it.

Do these suggestions seem to suggest to you unnecessary work? It is work that can easily be done in a few hours, and in the long evenings now; and it will save you daylight hours in April and May when time is much more precious; save your hours and give yourself better results. I know it, for I've done it.

Some Things to Do Now

THE success of your garden will depend very directly upon the number of pounds of manure you are able to accumulate. Start now. At this time of the year manure may frequently be bought for one-half what it would cost later in the spring. Do not worry about having no place in which to keep it. If you can't get it under cover, have it put into a square sided heap, trod down—not thrown into a loose pile. Add to this pile at every opportunity, and put in everything that will serve as manure—sweepings, old leaves, old sod, organic refuse of any and all sorts. Get a good percentage of horse manure if you can as it will help keep things rotting. Cow manure alone is too cold.

If you have a little sheltered corner somewhere under cover, put your manure and materials there. Then get a small pig—no, that isn't a joke at all! It will cost you \$3 to \$5 or \$6. In the spring your butcher will get him, alive, and give you \$6 to \$15, and your manure pile will be worth half again as much as it would otherwise have been, and the manure heap is the garden's foundation.

Coldframes and Hotbeds

IF you still use the old plan of wintering over plants—and for some things that is the best way, although I believe that cabbages and most other things are better started early in the spring—see that, even during January, they have plenty of air on all bright days. They will not need watering. As long as the soil within the frames is unfrozen, snow must be cleared from the sashes. If things get frozen up before a fall of snow a few days' shade will do no harm. Take advantage of any bright, comfortable days to prune grapes, currants, gooseberries or peaches. Currants and gooseberries should be kept pruned to the open bush form. Currants are produced on wood two or more years old. Therefore, cut out branches very small, or not until four or five years later, after it has borne two or three crops of fruit.

Pruning Grape Vines

WHEN set out, grape vines should be cut back to three or four eyes. The subsequent pruning—and the reader must at once distinguish between pruning and training, or the way in which the vines are placed—will determine more than anything else the success of the undertaking. Grapes depend more upon proper pruning than any other fruit or vegetable in the garden. Two principles must be kept track of in this work. First principle: the annual crop is borne only on canes of the same year's growth. Second principle: the vine, if left to itself, will set three or four times the number of bunches it can properly mature. As a result of these facts, the following system of pruning has been developed and must be followed for sure and full-sized crops:

(1) At time of planting, cut back to three or four eyes, and after these sprout leave only one (or two) of them, which should be staked up.

(2) Following winter (December to March), leave only one cane and cut this back to three or four eyes.

(3) Second growing season, save only two canes, even if several sprout, and train these to stake or trellis. These two vines, or arms, branching from the main stem, form the foundation for the one-year canes that bear the fruit. However, to prevent the vine's setting too much fruit (see second principle above) these arms must be cut back in order to limit the number of fruit-bearing canes that will spring from them; therefore:

(4) Second winter pruning, cut back these arms to eight or ten buds—and we have prepared for the first crop of fruit, about forty bunches, as the fruiting cane from

each bud will bear two bunches on the average. However, these main arms will not bear fruiting-caness another year (see first principle above), and, therefore:

(5) At the third winter pruning, (a) of the canes that bore fruit, only the three or four nearest the main stem or trunk are left; (b) these are cut back to eight or ten buds each, and (c) everything else is ruthlessly cut away.

Each succeeding year the same system

is continued, care being taken to rub off, each May, buds or sprouts starting on the main trunk or arms.

The wood, in addition to being cut back, must be well ripened; and the wood does not ripen until after the fruit. It, therefore, sometimes becomes necessary to cut out some of the bunches in order to hasten the ripening of the rest. At the same time the application of some potash fertilizer will be helpful. If the bunches do not ripen up quickly and pretty nearly together, the vine is overloaded and being damaged for the following year.

Other pruning work should demand your attention. The apple trees may be pruned now if they have not already been attended to. This will save time later on.

Final advice should be about house plants. With what information has been



A very satisfactory provision for house plants was made here by waterproofing the floor of a bay window and building shelves for hanging plants

given before you can have much pleasure from an indoor garden.

Plants in the house in winter, even when growing and blooming, need very little water compared with what they require in the summer out of doors. But they should be kept clean. A soft, moistened cloth may be used to wipe the leaves off. Do not use olive oil or any such discovery; it may make the leaves shine and look very pretty, but is not good for the health of the plant.



EDITORIAL



An Old House or a New One

THE first article in this issue brings up a question that is always interesting though never vital. One might argue all day that the mellowness of an old house is a quality to be desired above all other considerations, or that with the life of to-day any house other than one designed and built to conform to our demands for electric lighting, plentiful plumbing, scientific heating and other like requirements, is inconsistent. The arguments on both sides are interesting and productive of good, in that they help us to decide which of the two—old house or new—better suits our individual taste. It is not hard to imagine the man who, in a remodeled farmhouse, would feel—and look as though he felt—like a strayed kitten. His whole personality is out of time with his environment. And that same man, in a home of his own choosing, designed to reflect something of his individuality, would feel—and look as if he felt—at peace with the world. The choice is essentially one to be referred to our individual taste rather than to abstract reasoning. And, above all, the ultimate success of our home depends not on whether we choose now to build a new structure or remodel an old one, but rather on the way in which we do either one of these things. To many people there is a joy in remodeling, in seeing the actual substance of what they would alter, that they do not find in the contemplation of working drawings. It is hard for most laymen to visualize a house as it is designed by the architect—many feel surer of success in making a little change here, a little addition there, to an old building, noting the effect as they proceed and changing back again if a later judgment so wills it. On the other hand, remodeling falls far short of securing for a home-builder such features as a great hall extending up through two stories, with the bedrooms opening from a balcony. It may be that some such thing is the home-builder's pet hobby, in which case he should surely build a new house. Once again, then, the choice is merely a matter of taste, not a fork in the road, leading to success on one branch and failure on the other. And the ultimately successful home depends very little on its size, type or previous condition—its success lies in the manner in which an idea has been followed out to its logical end.

The Ideal House

“TWO things are necessary in any neighborhood where we propose to spend a life: a desert and some living water.” So writes Stevenson in one of his essays about the house that he would build. It's a pleasant combination of the practical and the dreamy, this essay, but it has much of interest to the reader contemplating building. There is no need to accept his ideal *in toto* as one's own, for we are not Robert Louis Stevensons, but there is an excellent method suggested that certainly should help us all. Strangely enough, an article in another part of this magazine is a practical application of the Stevensonian method—it tells how two people found the way to realize their ideal house.

Stevenson felt that his house should be a little world complete in itself, a miniature of his delectable lands, which could under the imagination's power grow into heroic proportions. So he visualized these ideals of his, and the place would have been the outgrowth of his preconceived plan. Perhaps some of us might like to develop the plan he proposes in that ideal home of ours.

First he demanded a combination of wildness with what he calls a “kindly variety.” “A bit of moor bordered with firs” or a “forest developed with heath and rock” were the desert features. And the crags and rocks could be merely boulders close at hand to give him the effect of cliffs at a distance. The water features that he sought could all be obtained in a little brook, for each

tiny fall of the stream differs from Niagara only in degree. If the sea coast provided this essential water feature there must be promontories and rocks reaching out into the water.

Such are his suggestions for the first requirements of the home; the nature of the country could be rendered suitable. He specifies, however, old trees, and thickets of evergreen; much level, such as successions of small lawns; a garden divided by hedges, and a rolling orchard stretching to the brook. All this sounds like a great estate, but the idea was not that; it was simply to combine these features—not necessarily as the Japanese do—in a small place and by giving variety get completeness.

The way a man and woman reconnoitered for a building site is a way to obtain this ideal. They had their notion, and sought the land with the two essentials. Then when they had found it they camped there. They considered each outlook, each corner and slope, and gradually, when their desires were crystallized and fitted to each portion of their lot, the house was ready to be built, its position decided upon and the most advantageous knoll selected for it. They had become acquainted with the land and could then give their architect something tangible to work upon. Such a building campaign not only gives us considerable happiness in working it out, but is apt to give much more satisfaction.

Health in the Country

“TO make the country as healthy as the city” is the aim of a recent publication. Such a statement comes as a shock to those of us who have considered the country the one place where disease and sickness should be absent. But though country air may be purer and sweeter than the urban atmosphere, statistics show that the rural communities have a greater rate of typhoid fever per population. The great, well-organized health departments of the cities assume the responsibility of the public health. In the country the case devolves upon the individual. How often he is indifferent to his duty is revealed in countless instances. In this building number emphasis cannot be put too strongly upon the need of sanitary reformation in suburban sections. The consideration of health should be the first thought of the prospective builder. It should be a vital issue with the country resident that the local health boards are awake to the situation. What he cannot do in the community he should strive to accomplish in his own home.

The subject of land drainage should be looked into. Then the importance of a watertight and damp-proof foundation should actuate him to make proper provision against trouble. Some authoritative information is given elsewhere in this magazine upon this subject. Heating, ventilation and sewage disposal are of prime importance in health preservation. The experts whose advice is presented within these pages have endeavored to give illuminating instruction bearing on these subjects. Plumbing, too, is an allied subject that should be investigated. In these matters little should be taken for granted and much made the object of personal knowledge and supervision.

We do not often consider that the position of our house influences our well being, yet sunlight is a more potent purifier than many antiseptic solutions, and the house should be so planned that the most occupied rooms receive an abundance of light. Its setting in relation to the street is of but small import to this.

Water supply should never be taken for granted. That same babbling brook which delights one's imagination may be foully contaminated. The little bother of having the water analyzed before one settles in a new location is a precaution that may save many regrets and much expense later. These should become of first interest, and the sanitation of town and home grounds ought to be as much second nature as the matter of personal hygiene.

KELSEY FRESH AIR HEATING

You Will Know

how a home should be heated if you read the article in this issue by Dr. Wm. F. Colbert on Warm Air Heating.

Plenty of fresh air taken from out doors, properly warmed and constantly and evenly distributed, is the ideal method that insures comfort and healthful conditions.

Why, then, should any system of heating with radiators in the rooms which heat and reheat the same stagnant disease-breeding air be considered.

The KELSEY WARM AIR GENERATOR

SYSTEM HAS BEEN INSTALLED BY 40,000 HOME OWNERS WHO WANTED CLEAN, EFFICIENT, ECONOMICAL AND HEALTHFUL FRESH AIR HEATING AND VENTILATING.

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for radiators in the rooms is that the rooms are heated, and economically.

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is just as economical, and not only is every room heated, but of more importance, a COMPLETE CHANGE OF AIR IS SUPPLIED 3 TO 5 TIMES PER HOUR.

Any Steam or Hot Water System

which warms *fresh air* by bringing into contact with radiators in the cellar, and then supplies to the rooms through pipes and registers—the only proper way—costs much more to install, and much more for fuel, and requires more careful management than Kelsey Heating.

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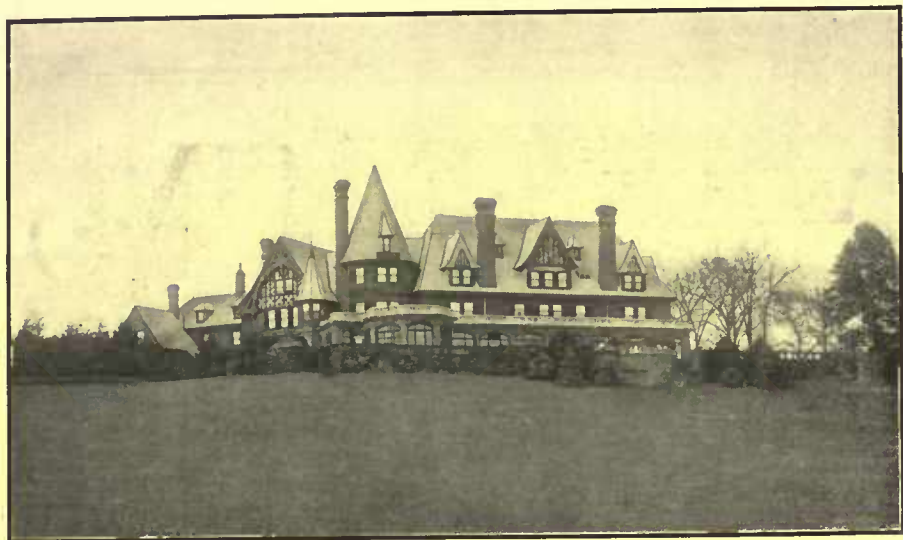
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Asbestos "Century" Shingle Roof—Quintard Estate, Portchester, New York

Asbestos "Century" Shingles

"The Roof That Outlives the Building"

YOU will pay just about the same for an Asbestos "Century" Shingles roof as for any other roofing that is ordinarily put on first-class buildings.

But consider their durability—their immunity from fire risk—their freedom from repairs and painting—

You find that Asbestos "Century" Shingles are the cheapest roofing known to the building trade.

We are often asked why we do not charge more for them.

The answer is obvious—it is better business to sell a million roofs at a fair price than to charge double the money and sell only a hundred thousand roofs.

As the matter stands, two hundred million Asbestos "Century" Shingles were sold last year at a price that brings us a conservative profit over the cost of making them.

It will pay you to look into Asbestos "Century" Shingles. You can get them in shape to suit any architectural style—in several sizes—and in three colors: Newport Gray (silver gray), Slate (blue black) and Indian Red. Ask your representative roofer about this indestructible roofing—or write us. Send for booklet, "Points on Roofing." It will settle your roof problems to your great satisfaction.

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The Casement Window Problem

(Continued from page 33)

chance to protect the windows by overhanging porches if one is using casement windows opening from the dining-room, conservatory, or sun room on to a veranda. If the veranda is made wide and the roof is only of moderate height this will protect it against in-blowing rain so that there is not much likelihood of severe damage.

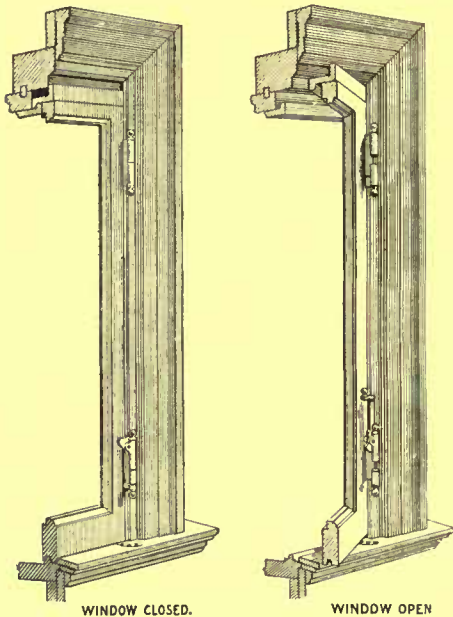
There have been many efforts to solve this problem of making inward swinging casement windows weather-proof by special devices. Many of them are unique, but it seems that only a few of them are really practical. The one method that is recommended by architects as being about the most practical is that of using what is called a lift hinge. It is a patented bit of hardware designed especially for hanging casement windows with two hinges and a mechanism engaging one of them with a lever that raises the window up over the inner stool or stop and when it swings into place it drops down over a grooved rest, which effectively shuts out the rain and wind and locks the sash. When it is desired to open the window a little lever attached to the lower hinge is operated and this lifts the window up off its bearing and it can be swung inward just as any hinged window. Of course, the window sash and frame are made to allow this lifting up to swing out and the hardware itself is a little more expensive than the ordinary hinges. The retail cost of the hardware runs from a minimum of about \$2 to a maximum of \$12 for a set of these patent elevating casement window hinges. This may be an item to one having to economize in home building or planning a great number of hinged windows, but it should not be an item to hesitate over, if one is building a good home. A little additional cost is a small matter compared to the satisfaction that will be had from the windows. It makes a safe clean-cut job of hinging windows to swing inward. Then, one can put either hinged screens on the outside or attach permanent screens covering a series of window openings and the screening is out of the way, the room is more sanitary, and it is more convenient.

And now to take up the natural and most important question in connection with casement windows, of why they should find favor and where they should be used.

The casement window should find more favor because by having hinged windows you can open the entire window space, whereas with sliding windows you can only open half of the window space, either the top half or the bottom half, and always there is half of it obstructed with a double sash. In other words, it is impossible to eliminate the sash from the window and let the air through in the summer time unless, of course, a hooded frame should be made and both sash slide entirely out of sight. This would be

more expensive and difficult than a hinged or casement window. Besides this, the casement window does away with sash cords and weights and is, in fact, the ideal in windows. The only wonder is that we have not used more of them instead of the sliding sash windows. And really they should be cheaper to hang. It costs something to put pulleys, sash cords, and weights on an ordinary window and to make a frame for receiving them, and this same cost expended in making casement windows should furnish a good equipment at the same price.

Beginning first with the regulation windows let us consider the attic. The attic is a place where there is always need for



WINDOW CLOSED.

WINDOW OPEN

A lever engaging the hinges lifts the window over a stop and fits it into a groove, making it impossible for rain to leak in

more ventilation than is obtained. Usually the windows are small and few. If they are sliding windows only half of the opening can be used. These windows should really be casement windows. Made as large as circumstances will permit, so that they can be swung open and get the full benefit of all the ventilation of the entire space. They may be pivoted instead of hinged, but the trouble with this is that it makes a difficult thing to screen. It requires an expensive half-circle screen either outside or inside and if the screen is attached inside it must be hinged so as to get at the window to open and shut it.

Belonging in a manner to the same class as the attic window is the basement window, which is or ought to be a casement window, and made so that it can easily open and shut to encourage proper ventilation. These should preferably swing inward so that the permanent screening could be put outside and would not have to be disturbed for the opening and closing of the sash itself. Here again the hinged window is better and simpler generally than the pivot. In fact, the pivoted win-

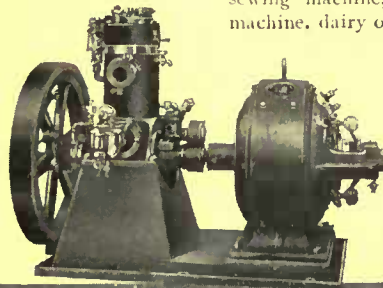


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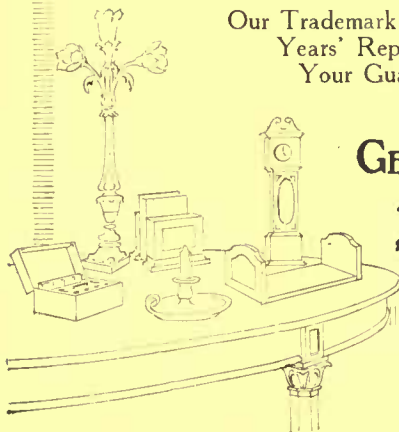
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dow is not a very attractive proposition in the ordinary home. It belongs more to business and public buildings, where enormous windows are used in thick walls, where it is not easy to swing them either in or out. These can be pivoted to swing either horizontally or vertically, as the occasion may suggest.

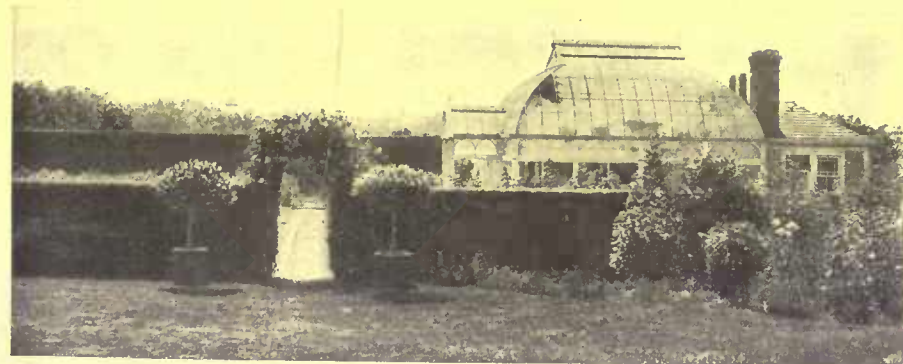
In the house proper there are several points that suggest themselves as good places for the use of casement windows. If there is a sun room about the house this is an ideal room to enclose with casement windows so that one can get air as well as sun and open them up when the weather is balmy, and close them and get the benefit of the sun when the weather is too crisp outside for enjoyment.

Dining-rooms and conservatories may be treated to a fair share of casement windows, and they bring relief, too, in kitchens that are inclined to be stuffy or that are in a climate where lots of air is wanted during the hot season. The same amount of windows in hinged sash will give you just twice the amount of open space that you get out of the regular sliding sash. So, it is easy to figure the advantages in relieving the stuffiness of the kitchen or of producing airiness in the dining-room by the use of casement windows.

Where there are dining-rooms, conservatories, or other rooms opening on to verandas it is an excellent place to use the French type of casement window, which is really a sash door, but it is distinguished from the sash door proper in that the window sash is a very light sash, whereas the door sash is a heavy frame—a frame similar to that of other doors. One can make these French windows as simple and plain or as elaborate as may be desired. If one is on the lookout for something good regardless of expense the French windows of beveled plate glass make a very attractive as well as a convenient opening, and one can either have them plain or elaborate and the sash bars designed in any manner desired.

The English generally divide the top half of their casement sash in various smaller sections. Sometimes it is straight bars and other times cross bars. There is much in the present tendency of our own sliding sash windows that is suggestive of the English type of casement sash and it would be only a step to change our sliding sash to hinged sash, and we would have an improved representation of the typical English hinged casement window in this country.

The greatest development in casement windows lately has been in the enclosing of sleeping porches and balconies. This is a good step in the right direction, too. It is helping popularize porch sleeping and to encourage the building of porches which may be opened up in the summer time either for rest porches or sleeping porches and may be closed up in winter time and still made use of. It not only gives one more service out of the porch, but it also serves as a protection to the porch floor and to the interior generally.



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Making the Cellar Dry and Keeping It So

(Continued from page 35)

no cellar? There are really only two good reasons for keeping it: first, to have a dry floor in the first story, and second, to provide a place for the heater. In old days we had kitchens and such things down there; but the modern servants won't stand for that—very fortunately for our health. Now, in many suburban communities a central heating plant is maintained, supplying steam or hot water to all the nearby houses. A common laundry is usually installed here; and thus the house cellars are left entirely empty. If we build the first floor like the last diagram shown herewith, with a slab of waterproofed concrete underneath, there will be no question of dampness, and a very considerable saving in expense is had, too.



Lighting Fixtures Within Your Appropriation

(Continued from page 31)

tions you may select, so long as they do not need special designing; in selecting a shower, for instance, you can pick out the ceiling plate of one fixture, the chains of another, and the shade and shade holders of a third. This sort of selection, however, should be done with much discrimination or the result may be disastrous.

The three designs now in use are simply and technically described as the round tube, the square tube and the Sheffield—the latter being usually in old brass with black finish in the grooves to give character. All three are suited to any room in the house. Other metals and finishes are much used, although brass always is the most popular. Antique brass is a darker shade; there are bronzes of varying shades, polished and antique copper, oxidized brass, Japanese bronze, half-polished iron, antique bronze, oxidized iron, bright and shaded silver, and gilt. The gilt finish is about ten per cent. more expensive than the old brass, and the silver finish more costly yet. There is also an imitation of carved wood which is heavy and massive and more durable than the wood, at about half the price.

Candle lights are not used to any extent these days, except by those whose pocket-books are large; they do not give sufficient light, nor diffuse it satisfactorily for practical purposes. Their chief function is ornament.

Many people err in selecting shades which cost more than the fixtures themselves. A good plan is to purchase the simpler shades at first; these may be changed at any future time as the pocket-book permits. It is good economy to get a higher-priced fixture and a low-priced shade at first; after one has lived in a house for a time one senses better what shade will harmonize with the furnishings.



From an old print in *La Telegrafic Historique*.

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This device was invented in 1793 by Claude Chappe. It was a semaphore. The letters and words were indicated by the position of the wooden arms; and the messages were received and relayed at the next tower, perhaps a dozen miles away.

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of to-day the visual telegraph system of Napoleon's time seems a crude makeshift. It could not be used at night nor in thick weather. It was expensive in construction and operation, considering that it was maintained solely for military purposes.

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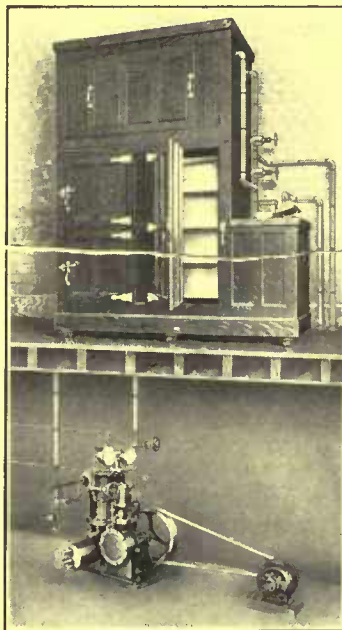
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Practically all of the domes are made of art glass in varying degrees of simplicity or elaboration. Art glass is also used extensively for the smaller shades and globes. On Colonial fixtures, cut glass or a cheaper blown glass with etched design is used, with or without the pendant prisms. There are myriads of styles of shades to fit all tastes and all furnishings; shades in pastel colorings in bell, flower and globe effect, upright and inverted, some effectively trimmed with metal. Especially attractive where a soft color is desired are the pearl-like shaded globes which have a beautiful iridescence.

The shower fixture has now almost displaced the center dome in living-room, parlor and dining-room lighting. The shower or dome hung on chains is the most practical, as it is then possible to shorten the fixtures at any time that the room is desired free of impediments. Chain fixtures should be carefully selected with a view to their weight in comparison with the size and trim of the room. In the form of the chain there is a difference in the cost, based on the square being always more expensive than the round. The shallow dome is still in favor for the dining-room, with chain support, although many of the best architects are now doing away with all of the light bunched in the center of the room, and to make a softer and more artistic effect, diffuse it from side fixtures entirely. The ceiling light is used where no direct reading light is required; often supplemented by side brackets.

A trick of the trade which sometimes helps one in selecting fixtures is to know the difference between cast and stamped metal, as the stamped ceiling plates or canopies, while just as durable as the cast, are more reasonable in price. Oftentimes one can find a shower with a stamped ceiling plate, which is just as good style and which looks just as rich to the unpracticed eye as the heavier and more expensive cast plate. The same rule applies to wall brackets; the wall plate, stamped, is good enough for all practical purposes.

Colonial designs must always be in good taste for Colonial and semi-Colonial houses; in fact, the only fixtures that can be used. The solid simplicity of the fixtures commends them to everyone who has a taste for the completeness of the fittings of old Colonial days. The squat little lamp fixtures are attractive with or without the crystal petticoats, and while the side wall brackets are most desirable, the center chandelier is also procurable, with plain lamps only, or with prism skirts.

A very pleasing effect in a low-ceiling Colonial room is secured at a minimum cost by suspending single lights quite close to the ceiling, but further apart than a fixture would allow, each provided with the pendant prisms. All four lights are controlled by one switch, two flashing at the first turn, two at the second; then two out at the third and all out at the fourth.

The use of the dark metals is confined to the living-room, library, den and dining-room, although the latter should for ob-

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vious reasons be as bright as the color scheme of the room will permit. Mission designs and other square forms in the dark fixtures are made in greater variety than in the lighter metals.

Only the most inexpensive houses to-day are equipped for gas alone and the selection of artistic brackets and chandeliers is decidedly small; there seems to be very little that is new in gas fixtures, and less that is truly artistic. In combination fixtures there is more of a choice, as many city and suburban houses are provided with both gas and electricity. In selecting a gas fixture the main point is to find a well-made fixture with a well-ground gas cock. Considering the danger from poor gas cocks in leaking, and the ease with which both good and poor are accidentally turned on, often with disastrous results, one would think that a safety appliance would be welcomed by all. It is nevertheless a curious fact that, hungry as people are for new ways of doing things, they refuse to use any but the old style gas cock. A splendid safety appliance which merely required the pressure of a little release button with the same hand that turned the cock, has been taken off the market by the manufacturer because the public prefers running the risk of asphyxiation in the use of the old-fashioned cock.

Center domes made for electricity are now possible for gas. These are made with a small brass pipe braced close to the chain, and the links of the chain are also braced together. The fixture cannot swing freely as with the electric cord; but the pipe does not show to the casual observer, and the effect of the inverted burner in the dome is that of electricity.

For the entrance hall or vestibule a hanging dish light in Empire or Colonial style, or a Sheffield design, is appropriate. A hanging, two-foot Sheffield fixture is very effective and costs but \$8.00.

For the porch fixture, zinc is a desirable material, as it is not affected by exposure to the weather. A good brass fixture of to-day would probably last no more than a year if subjected continually to the elements. A ceiling fixture of zinc, covered with black lacquer or with a green acid finish, with ground glass globe, can be bought as low as \$1.50.

Iron lanterns make very attractive porch lights, and may be fastened either close to the side of the house by the door, or suspended from above. Those shown in the pictures are made with ripple glass shade, iron trimmed; the suspended lantern costing \$12.50.

If one has time to browse about old curiosity shops, it is possible to pick up here and there some old marine lanterns which make splendid light receptacles. For instance, one Colonial home on Long Island boasts of two old brass ship lanterns hung beside the doorway; they are considerably battered, but the brass of long ago was a metal to withstand wear and tear. When the owner found these lanterns they were black as soot and the brass was not recognizable as such. But with

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patience and considerable elbow grease they have blossomed forth in all their old-time radiance, and are the envy of the neighbors.

Suppose we appropriate \$150.00 for a house containing living-room, dining-room, hall, porch and kitchen on the first floor; three bedrooms, bathroom, hall and maid's room above. Our expense for any of the well-made fixtures in any of the simpler styles would run somewhat as follows. Economy may be practiced if oil lamps are to be used in any of the rooms.

The living-room may be furnished with either a center shower or four double wall brackets, for less than	\$34.00
The dining-room may have a dome with four lights, or a ceiling light and two side brackets for less than	34.00
The hall may have a hanging Shelf-light for	8.00
The porch may have a hand-made wrought-iron hanging lantern for	12.50
The kitchen may have two fixtures for	5.00
The upstairs hall	4.50
The bathroom	2.50
One bedroom may have two double sidewall brackets for	12.50
One bedroom may have a four light center fixture for	18.50
One bedroom may have three single simple Colonial brackets for	13.50
Maid's room	2.50

TOTAL.....\$147.50



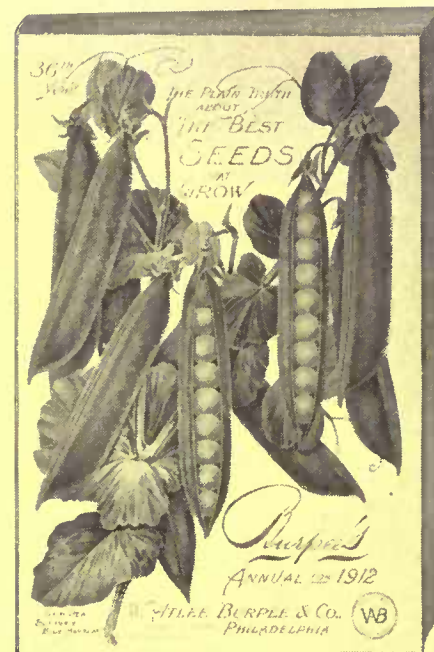
Comparative Costs of Different Materials

(Continued from page 36)

let us take up the various sorts of exterior wall construction used through the country and compare their costs, using the prices current around New York. Stone is the oldest of all building materials, and probably under capable handling is both the most attractive and durable material possible, but even where it is produced in abundance at or near the site of the house, it is the most expensive of all because of the difficulties attending its handling and shaping, to fit each piece for its particular position in the wall. Since cellar walls are almost entirely concealed in the ground, and very rough shapes can be used, where stone is abundant it is still the cheapest material for that work, costing about twenty-two cents a cubic foot laid in the wall, or since a wall is a foot and a half thick about thirty-three cents per square foot of surface. The price of concrete, the usual competitor of stone for cellar walls, varies greatly with the locality. In New Jersey good, sharp sand for concrete has oftentimes to be hauled a considerable distance, and broken stone must be obtained from the nearest crusher. In Long Island, however, over a large

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portion of its area there is a mixture of natural sand and gravel which can be dug right out of the cellar of the house and makes excellent concrete with the addition of cement. On Long Island, therefore, cement is the only material which costs anything and concrete work accordingly is comparatively cheap, costing for the concrete and labor and setting it, about twenty-two cents a cubic foot, beside five cents a square foot for forms. As the ordinary house wall would be 10 inches thick, the cellar wall on Long Island would cost $5/6$ of twenty-two cents, or, say, nineteen cents, and five cents for the forms, about twenty-four cents a square foot of surface. Concrete in New Jersey would cost nearly 50 per cent. more, bringing its cost about equal to or slightly above that of the stone. Brick foundation walls would be 12 inches thick and would cost forty-five cents a square foot for a 12 inch wall, about 40 per cent. more than stone or concrete.

Now above the foundation work in spite of the arguments advanced by the terra cotta block and cement manufacturers the ordinary frame wall is still the cheapest thing to use, although with the growth of knowledge on the part of the builders and masons of how to lay terra cotta blocks on the one hand and the increasing price of lumber on the other, it will probably not be very long before these values are equal. An ordinary wooden wall built up of studs, cross braced, with sheathing on the outside, and paper over the sheathing, is worth about eleven cents a square foot, and either shingles or clapboards add about nine cents a square foot to its cost. Stucco on wire lath costs twenty cents a foot. This figure is based on using a high grade galvanized material with metal furring strips to hold it away from the paper so as to give a clinch for the stucco. Stucco on wood lath, though somewhat cheaper, should not be used because of its tendency to crack because of the expansion and contraction of the wooden lath.

A terra cotta block wall 8 inches thick is worth about twenty-five cents a square foot to lay, but it needs a finishing material, either a brick facing or stucco. As the brick is little used we will consider the price of the stucco, fourteen cents a square foot, making a total cost of a terra cotta block wall stuccoed, thirty-nine cents a square foot, as opposed to thirty-one cents for a frame wall stuccoed. A rough brick wall is worth forty-five cents a square foot, 12 inches thick, and the stucco on it would again cost fourteen cents a square foot, or fifty-nine cents a square foot for the wall finished. A face brick wall is worth about fifty-five cents a square foot. Stone walls above the first floor require careful facing and laying, and the ordinary type of stone house walls, such as used in many of the houses around Philadelphia and a few around New York, are 18 inches thick and worth about fifty cents a cubic foot or seventy-five cents a square foot of surface. None of these

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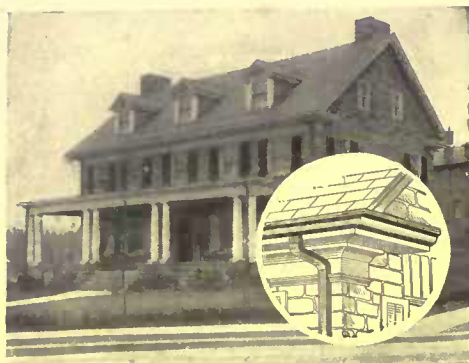
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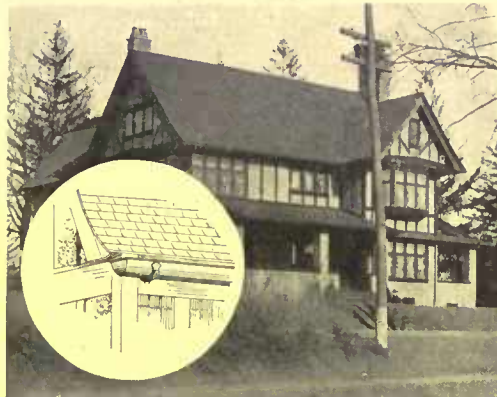
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prices on exterior walls have included the cost of the interior plastering or outside painting, which must also be considered. Plastering a terra cotta wall directly on the back of the blocks costs six cents a square foot, while lath and plaster on the frame wall costs about seven cents a square foot. For a stone or brick wall, furring strips must be run vertically, to nail the lath, at an additional cost of about two cents a foot, making the cost of the interior plastering nine cents. These prices I have found to be those usually employed in estimating by the contractors with whom I have worked in the neighborhood of New York City, and do not include any profit. I have also had them checked by a contractor of skill and wide experience, and he believes with me that they represent about the average prices of thoroughly good work around New York. The table given below gives these results in a condensed form and may be of use to prospective house builders:

FOUNDATION WALLS.

	Per sq. ft.	Total cost Per sq. ft.
Stone (where abundant)		\$0.33
Forms for concrete	\$0.05	
Concrete (Long Island) .....	.19	.24
Concrete (Elsewhere) .....	.30	.35
Brick 12 in. thick .....		.45

UPPER WALLS.

Wood.

Rough framing	\$0.11	
Shingles .....	.09	\$0.20
Clapboards .....	.09	
Painting (3 coats) .....	.03	.23
Stucco on wire lath .....	.20	.31

Terra Cotta.

Stucco on blocks	\$0.14	
Blocks 8 in. thick .....	.25	\$0.39
Blocks 10 in. thick .....	.29	.43

Brick.

Brick wall 12 in. thick	\$0.45	\$0.45
Brick wall with face brick .....		.55
Brick wall and stucco .....	.14	.59

Stone.

Cobble stone pointed		\$0.60
Rough squared and rough faced ..		.75

PLASTERING.

	Per sq. ft.
Plaster on terra cotta blocks	\$0.06
Lath and plaster frame wall .....	.07
Furring lath and plaster and plaster on brick or stone .....	.09

SUMMARY, INCLUDING PLASTER.

	Per sq. ft.
Frame wall and shingles	\$0.27
Frame wall and clapboards painted .....	.30
Frame wall and stuccoed .....	.38
Frame wall, stuccoed with half timber .....	.43
8 in. terra cotta block wall stuccoed .....	.45
10 in. terra cotta block wall stuccoed .....	.49
12 in. face brick wall .....	.64
12 in. brick wall stuccoed .....	.68
18 in. cobble stone wall .....	.69
18 in. rough squared stone wall .....	.84



Sewage Disposal for Country Houses

(Continued from page 39)

After a time, however, a thick, leathery scum forms on the surface of the liquid and then no further danger of smell need be feared. When the tank is cleaned, the water is drawn off and the scum together with the bottom deposit is shoveled out, carried away and either buried or used as fertilizer.

Between the tank and the beds there

should be placed a tank or chamber for the express purpose of converting the regular flow of the sewage into an intermittent flow, so essential for the well-being of the beds. The size of this tank as indicated above depends on the size of the particles in the beds, ranging from a capacity of one-third the daily flow to one-two-hundredth of the daily flow. The intermittency is secured by means of a flushing siphon, to be bought from one of the several makers of such apparatus. The siphon operates only when the flow line in the chamber has reached a certain height. Then in a few seconds the entire contents are discharged, to be repeated when the tank has again filled. By properly choosing the size of this chamber and selecting the proper flushing for that size, the dose may be made anything desired.

In order to make clear the application of what has been written and exemplify by a definite installation, the following description of the drawings shown in figures 1 to 5 may now be given:

The illustration shows the ordinary construction of a septic tank, the cover, however, being omitted. The inlet pipe shown on the left is provided with an elbow, so that the entering sewage passes into the tank about half way between the water level and the bottom. Similarly, the outlet pipe has an elbow, so that the sewage going out is freed as much as possible both from the bottom sediment and from the floating matter on the surface. Care must be taken to place the horizontal part of the outlet pipe at the proper elevation, since this determines the level of the water within. The bottom and sides should be of concrete about six inches thick and the sewer pipes four inches in diameter. In order to vary the capacity the tank, the length and width may be changed, although it is better not to exceed six feet in width.

The automatic chamber for the purpose of providing the intermittent flow, as will be seen from the drawing, consists ordinarily of a circular well, at the bottom of which is installed the cast iron mechanism for discharging the sewage which enters the chamber. The inlet pipe coming from the sedimentation tank is usually above the level which the sewage reaches in the chamber. The automatic siphon should be placed before the bottom of the chamber is laid and it is best to set it in concrete before any construction on the chamber is started. The outlet pipe should extend to the filter beds and to the irrigation fields. The siphon apparatus may be purchased from several manufacturers of plumbing supplies.

The figure shows a sand filter bed, the inlet half removed being the excavation filled with three feet of sand. In the center of the bed is a six-inch sewer pipe to carry away the filtered sewage. On the surface are two rows of wooden troughs with holes two feet apart in order to allow the entering sewage to be distributed over the surface of the sand. It would be desirable to surround the outlet drain under



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the sand with a four-inch layer of broken stone or gravel in order that the entrance of the sand into the pipe may be prevented. It would be necessary, perhaps, to rake up the surface of the sand once a month in order to loosen the greasy scum which will be found to form. In winter it is desirable to run a furrow across the bed in front of each opening from the trough. The sewage is thus concentrated in the bottom of a narrow ditch and in this way the ground is kept warm by the heat of the sewage and little or no difficulty from freezing is experienced.

Where broken stone or screened gravel is used for purifying sewage a different plan is pursued, as shown in the drawing. The inlet pipe is divided into two lines on the surface of the stone, the sewage entering the bed from the joints which are left open underneath. If the size of this stone is kept small—that is, not greater than ordinary peas, the sewage may be discharged onto the surface from the siphon chamber and the effluent, while not purified as well as if sand were the filter medium, yet will be sufficiently improved to be discharged into any surface stream. If the material is coarser than peas a valve must be placed on the outlet pipe just inside the wall of the chamber shown and the valve closed when sewage is admitted. Then if the sewage is allowed to stand in the bottom for an hour and then slowly withdrawn through the outlet valve, it will be found to have been purified far more than if allowed to run directly through the broken stone. With such a method of operation the walls and bottom of the chamber must be of concrete, and such a correspondence between the size of the siphon chamber and this stone filter must be observed that time enough will be given to the filter to stand full at least one hour while the siphon chamber is filling.

Sometimes a level area laid out in ditches is used for subsurface irrigation. As will be noted in the drawing, the pipe from the siphon chamber enters a manhole at the extreme left, from which two trenches have been dug, each connecting with four cross lines. The trenches should not be more than a foot deep and should be long enough so that at least forty lineal feet of trench will be provided for each member of the family. The grade of the shallow trenches should vary between one foot in two hundred and one foot in five hundred, the greater grade being used with the coarser soil. The tile pipe placed in these trenches (not shown in the drawing) should be four-inch agricultural tile, octagonal outside and circular inside. The joints are covered on top with a piece of heavy paper, and it will be found that the entering sewage will escape through the joints in proper and sufficient quantities. The drawing shows two systems, both connected with the manhole, so arranged that alternate and intermittent use from day to day of each section may be practiced. The writer has found that this arrangement works well in any loamy soil and will continue to work even through the severest winter. The tile from the manhole con-



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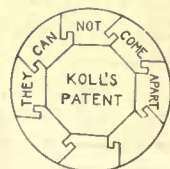
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necting with the agricultural tile should be sewer pipe with cemented joints, and it is very desirable that the grades should be so arranged that equal amounts of sewage may pass into each one of the connecting lines.

Which of the methods of purification suggested shall be adopted in any particular case will depend upon local conditions to such an extent that it is impossible to say which of the three given here should preferably be adopted. If it is found that below the surface soil sand has been deposited by nature, a sand filter would naturally be adopted. If sand or gravel has to be hauled, then fine broken stone is less expensive because of the high rate which can be used with such a filtering medium. If the ground level is horizontal and sufficiently convenient to the house, particularly if the soil is a sandy loam, then the method of subsurface irrigation would naturally be suggested. In all cases it must be remembered that the process is a delicate adjustment between conditions favoring the growth and development of certain bacteria and other conditions which lend themselves to their destruction. The sewage disposal plant when constructed is therefore not to be neglected, but must be carefully inspected to make sure that the automatic siphon is working properly, that there is no surface clogging on the beds and that the appearance of the filtered effluent is satisfactory. With a reasonable amount of intelligence used in the construction and in the maintenance of the plant, there is no reason why the matter of sewage disposal, after the original installation, should ever be a cause of worry, but it may be expected that the household wastes will be taken care of in such a way as to be out of sight if not out of mind.



The Naturalization of a City Man

(Continued from page 45)

organized as follows:

General Manager, Henry E. Mantell.
Farm Department, Henry E. Mantell.
Garden Department, Raffles.
Poultry Department, Robert and Helen.
Bookkeeping, Mrs. Mantell and Helen.

Raffles also made the suggestion that one of the unbusiness-like things he would be in favor of that each should have only a "drawing account" and leave as much as possible of his wages in the business for the first year, interest on the same to be paid at 5 per cent. He admitted frankly that as far as leaving his wages in was concerned, it was not a matter of charity, because he knew that the business would need the money, and he needed the business in order to have his job. Also, that as the business owed him money, there would be less chance of his being dropped for another man. He said this jokingly, but as things developed afterward there were real reasons for it.



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The payroll for the first year was arranged as follows: Mr. Mantell, \$40 a month (Mr. Mantell, as he put it down, smiled to think of what his city friends would think. In more than one instance men working for him had drawn much more than that sum weekly). Mrs. Mantell, \$20 month—and Raffles smiled as that went down; he thought of the howl that the average farmer would emit if his wife at the end of the year should say, "Well, John, I reckon I've had tew work pretty early an' late, lookin' out for the victuals an' churnin' an' washin' an' house-keepin'; I guess it's worth a bit better'n half what you pay 'Big Olaf. 'Spose you call it \$20 a month an' board, an' make me out a check f'r \$240, or I reckon I'll have tew quit."

As to the rest of the budget, Robert and Helen were to receive \$10 each, and in addition 20 per cent. of the profits of the poultry department. Raffles, for the first three months, \$20 a month, and if he made good, thereafter \$30.

"Now just stop and figure things up," said Raffles. "There's \$480, and \$240, and two \$120s; there's \$960, and my \$340 makes a total of \$1,300 for wages alone, to say nothing of the fact that we get only half the profit on the hens, and will have to hire some extra help. Perhaps you see now what I meant when I said that the farmer would probably stick it out longer than the full-of-theory city man, who was going to start in and do everything right up brown on a strictly cash business basis."

Mr. Mantell opened his eyes. He had never figured the thing out in just that light before, and Raffles went up still another peg in his estimation.

"And if you were to figure \$4 a week each for board, that would be \$1,040 more," continued Raffles, "and make things look pretty serious; but it won't cost that, or near it, especially in real money. Just the same, I don't envy Mrs. Mantell her job."

IV.

Not all the time at Pandora Cottage was spent in conferences, however. There was a lot of work to be done before spring and the best half of the winter was already over.

The list that Mr. Mantell and Raffles drew up included, first of all, the repairing and making over of some of the farm buildings. They found that the supporting posts and some of the crossbeams under the barn had succumbed to a dry rot, and had to be replaced. Squire Henderson happened to be going into town that day, and brought them out a tape-line and a square, and the following day Mr. Mantell and Raffles went to town. Raffles figured out that the small tools they would have to get at once would cost about \$20. They included two forks, a shovel and a spade, two axes, and a wheelbarrow, besides quite an assortment of carpenter's tools, such as a cutting-off and a rip-saw, a hammer, a brace and an extension bit, a hatchet, a cheap level, a plane, nails,



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screws, bolts, etc. Mr. Mantell had, of course, plenty of money on hand to pay cash for these things, but he did not do it. Realizing from his business experience the tremendous elasticity which good credit gives to working capital, he had them charged. He knew that the money required to pay for them would lie idle in the bank until the first of the month, but he wanted to establish his reputation as "good trust" as soon as possible, so that when the time came when he did need credit he could get it.

Leaving Raffles to pick out the tools needed, Mr. Mantell went to the city lumber-yard and got figures on the material needed for fixing the barn. It came to \$56.45. On the way home, with a face a yard long, he communicated this information to Raffles.

"Save that toward getting something to put into the barn," was Raffles' reply. "We'll get out of it cheaper than that. And that brings us to something I've been wanting to speak about for several days. It's all right to let those town folks think that you are a retired business man, taking up farming for your health, etc. The more they think so the better—as long as you've got a good bookkeeper. But if I were you I'd tell Squire Hunderson just what the layout is—he can help us in lots of little ways, and maybe in some big ones. The immediate little one is that with his cross-cut saw and wedges we'll get that barn fixed for about one-tenth of your figures for material. I've worked quite a bit for the Squire and he knows I'll take care of his things if I borrow them. I guess he had a suspicion where I was putting up, too, but he wasn't fixed to board me, and kept his eye shut."

"Let's go back and get a saw and wedges, I hate to borrow things," said Mr. Mantell.

"Just as you like," said Raffles; "but if I were you I'd hang on to every dollar till the tail feathers came out. You see, it isn't as if it was anything that they used every day, or were likely to need in a hurry, or that we'd wear out."

"Well, it's not strict business, but I suppose there's something in it," admitted Mr. Mantell, and they continued homeward.

Squire Hunderson was tremendously interested in the "Business Administration," as he termed the new undertaking of Mr. Mantell. In fact, "tremendous" is the adjective that described most of the Squire's interests, thoughts and acts. He lived tremendously, and tremendously he enjoyed life, too. And never more so than when he could lend a hand to someone he considered deserving help.

"Sure you can take 'em," he said, "and welcome. I'll go you one better. I need some plank myself, and I'll let you—I'll let you have a team and sled to haul 'em. Why yes, hang it, yes, I'll haul 'em for you myself, you've got more lumber to spare than you have time."

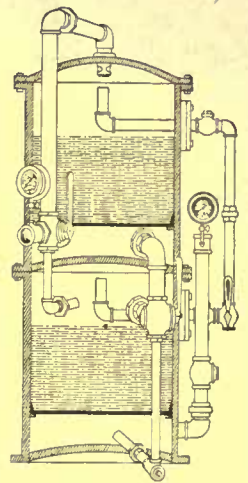
And so the next few days found them busy in the woods. Mr. Mantell's hands blistered until they peeled, and his shoul-

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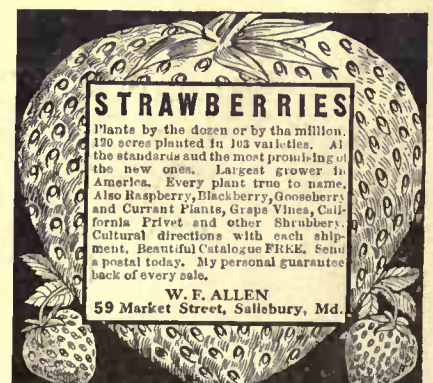
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ders and back ached at night until he dreamed that he was back in his college days, playing old-fashioned football. Or all night he hacked and hacked and sawed and sawed, in a maze of trees and chips and iron wedges.

He came, too, to have a little more respect for the clumsy appearing garb of the natives. He had always held the felt boots, blanket-lined coats and heavy gloves in a good deal of disdain. After a day's sawing in the woods, spent mostly upon his knees or stooping over, with his feet kept in the same position for stretches of minutes at a time, his mental attitude was more lenient. He could not bring himself to "felts," but he did get a pair of the heaviest high shoes two sizes too large, and wear two pair of the heaviest socks.

And then one night it snowed and the next morning they sallied forth to work in a veritable fairyland. Every branch was capped with its burden of white; the pines and hemlocks were tents of wonder, through whose half open doors at the bottom, dark, dry, inviting looking recesses could be seen. The air was as frosty and clean and sharp and cutting as the edges of their newly ground axes. Each breath of it, stinging nostrils and throat as it was inhaled, sent life tingling to the tips of one's fingers.

Mantell with difficulty repressed his desire to shout. He did not know why he wanted to do it. But the endless vista of trees and snow, far-stretching, the palpable, unbroken silence of primal Nature with him, Man, there in the midst of it, a primitive tool in his hand, gave him a strange sensation of the ancient glory of battle.

They did a great day's work! Squire Henderson was taking no chances on the weather, and by ten o'clock two of his sleds, with the Squire himself in the lead, muffled to the chin, puffing great clouds of smoky breath into the frosty air, and directing what trees were to be cut out of the way, bore in upon them. The great logs were heaved and rolled up skids and onto the low sleds, and borne creaking away down the curving woodland roads.

That night Mr. Mantell, as he pulled off his heavy woolen footgear and slipped into his worn but comfortable ex-city Romeos, confessed that he was as tired as he had ever been after a day's work, but had never enjoyed one more.

The following few days were busy ones. There had been no good ice weather before Christmas, and now that it had turned steadily cold, and snow was also on the ground, the "harvest" was on with a rush. A load of inch boards was hustled back from the sawmill, and the inner wall of the ice-house, which had rotted away, was hastily repaired. Robert was kept home from high school, and every one worked early and late. They helped Squire Henderson fill his big house, which was near the pond, and he put three teams on for them, so that their small house was filled in less than a day. Then there were several houses to be filled for city people, and

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they worked three days for the Squire at that.

Three men at two dollars for three days, that was \$18. It seemed to Mr. Mantell that he and Robert and Raffles had exchanged a stupendous amount of muscle and a good deal of skill for that little wad of money. As a matter of fact, a dollar was beginning to look very valuable to Mr. Mantell; but strangely enough it didn't stand so near the top of the list of life's prizes as it had a few weeks before. He knew many men in the city who would pay ten dollars for a meal they could enjoy as he enjoyed his dinner—they still called it that—in the evening. He knew men who had paid thousands for machines and chauffeurs, who never in the year got such a day's exultation as he had that day in the snow-laden, silent woods.

The first scratches were beginning to fleck off the veneer of a superurban civilization. Mantell had not been encased long enough to become pathologically and inexorably conformed to the mold. He was already becoming re-naturalized.

Following this spree of work Mantell had a period of sobering up. He had followed the pace set by the rest of the men, and the excitement and his grit kept him to it. The men had liked his courage and given him a helping hand where possible, and he had soon learned how to slide and lift the hundred and fifty pound cakes into position with the least expenditure of muscle. But his body was unused to the exertions that were demanded of it. Tissues and cells and delicate structures were undergoing too rough and rapid a change. They went on strike, and for a week Mr. Mantell limped more or less as he walked about, and showed a preference for putting little carpenter jobs around the house and barn, and getting the places ready for the stock.

There was some excitement about the selection and arrival of the "critters." The Squire went with Mr. Mantell and helped him select a cow, from a herd that had just been tested for tuberculosis, so that he would be sure to start right. They found a large, gentle Jersey Grade, at \$65, which the Squire said was "worth the money. She'll give more milk than you need in the house," he said, "but the pigs never get too much."

A suitable horse was very difficult to find. They looked over several, but the Squire shook his head. Finally he drove up one morning in his cutter, tumbled Mr. Mantell, in his oldest suit of clothes, into it, and in town took him to see what he considered a bargain, a handsome, chunky, black horse which a saloon-keeper who had got into some trouble had to let go to raise "quick money."

"You can buy him right," said the Squire, "he's got to sell. Offer him a note at his bottom figure and then you can get ten or fifteen dollars off for spot cash. He'd rather have the money; I don't mind squeezing these fellows, darn 'em; they'll get every last cent a man's got, and try to get him to borrow more. Don't show him



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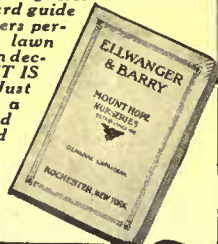
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any mercy. If you haven't got the cash with you, I have."

They bought a very good general purpose horse for \$135. The squire was as tickled as could be over it. "He paid \$250 for him, only last spring," he said, as they led the black horse away behind the cutter. "He'll make you an excellent animal."

When they reached the house Mr. Mantell insisted in giving the Squire a check for \$135, although the latter offered to take a note, if it would be of any convenience to Mr. Mantell.

The pig-pen was supplied from the Squire's choicest O. I. C.'s. He let Mr. Mantell look over his several litters, and after the latter had picked out two of the chubbiest and fattest he could find, took him back to a pen they had passed, where the potential porkers looked almost lean, their bodies were so long in proportion to their legs.

"There's what you want," he said. "Get a frame first, sir; you can hang the pork on it afterward. And make it four, instead of two. You can get good money back on the extra two in a few months, and it won't take any more time to attend to four than it will to two."

That sounded like good advice, and Mr. Mantell acted upon it. At \$3.50 each, the lot cost \$14.

The naming of the stock was left to the women folks, but Robert protested, as he wanted the naming of the pigs. Finally the cow was called Marie Antoinette, and the horse, Black Prince. The pigs Robert amused himself by naming after several gentlemen prominent in high finance, with whom he knew his father had come indirectly in contact in his vain attempt to maintain an independent business. The fact that his father's late concern was the result of the combination of several one-horse industries, did not trouble him.

Affairs seemed to be progressing in order and without a hitch. Robert and Helen were delighted with the new school and teachers and as they were not at all snobbish made friends quickly. Household matters went smoothly, even without a maid—as yet they had not been able to find one—and while it made a lot of work for Mrs. Mantell, both Helen and Robert gave her much help in the house. Everyone was happy. And then the first blow fell.

Vines to Grow Indoors

(Continued from page 26)

climber. It lacks, however, the substance and coloring of the real ivy. It is, nevertheless, valuable for temporary uses and a plant or two should always be kept. Cuttings root freely and grow at any time.

Cissus discolor—This altogether too little known vine has the most beautiful foliage of any. The leaves are a velvety green veined with silver, the under surfaces being reddish and the stems red. It is a rapid grower and readily managed if kept on the warm side. New plants may be had from cuttings at almost any

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season. *C. antarctica* is better known.

Clematis—This popular outdoor vine is sometimes successfully used as a house plant, and has the advantage of doing well in a low temperature. Cuttings rooted in June and grown on will make good plants, but the best way will be to get at the florists two or three plants of the splendid new varieties now to be had.

Hoya carnosa—This is commonly known as the wax plant on account of its thick leaves and wax-like flowers, which are a delicate pink, and borne in large pendulous umbels. It is easily cared for; give all sun in summer and keep moderately dry in winter. Leave the old flower stalks on the plant. Cuttings may be rooted in early spring in pots, plunged in bottom heat.

Manettia—This is a cheery, free flowering little vine, especially good for covering a small trellis in a pot. The brilliant little flowers, white, blue or red and yellow, are very welcome winter visitors. Cuttings root easily in summer and the plants are very easily cared for, being particularly free from insect pests.

Mumulus moschatus—This is the common "musk plant" which, according to one's taste, is pleasant—or the opposite. It is of creeping habit and has very pretty foliage. There are a number of varieties. That described above is covered with small yellow flowers. *M. M. Harrisonii* has large flowers, *M. cardinalis* red flowers and is dwarf in habit. *M. glutinosus* is erect in habit, with salmon colored flowers.

Othonna crassifolia—This pretty little yellow flowered trailing plant, sometimes known as "Little Pickles," is quite a favorite for boxes, or as a hanging or bracket plant. It should be given the full sun, but little water in winter. When too long it may be cut back freely. Root cuttings, or the small tufts along the trailing stems, in spring.

Smilax—In some ways this is the most airily beautiful and graceful of all the decorative vines. And it is valuable not only for its own beauty, but for its usefulness in setting off the beauty of other flowers. It is very easily grown if kept on the warm side, and given plenty of root room. Care should be taken to provide green colored strings for the vines to climb up, as they make a very rapid growth when once started. The best way to provide plants is to get a few from the florist late in the spring, or start from seed in February. New plants do better than those kept two seasons.

Sweet Peas—Of late years a great deal has been done with sweet peas in winter, and where one can give them plenty of light, they will do well inside. Plenty of air and a temperature a little on the cool side, with rich soil, will suit them. Start seed in very early fall, or in winter, according as you want bloom early or late. There are now a number of varieties grown especially for winter work, such as Christmas Pink, Christmas White, etc.

Other successful house plants are morning-glory, nasturtium and moneywort.

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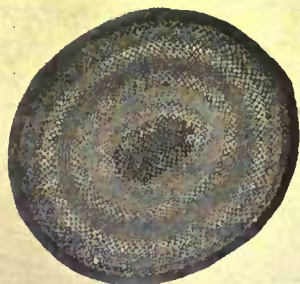
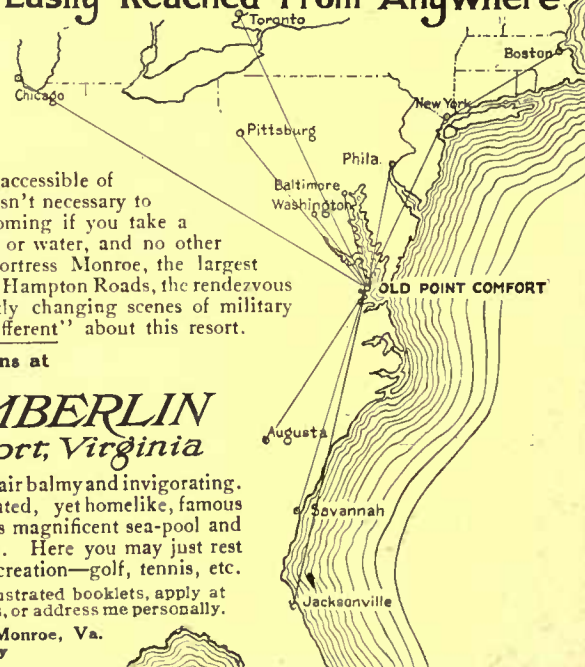
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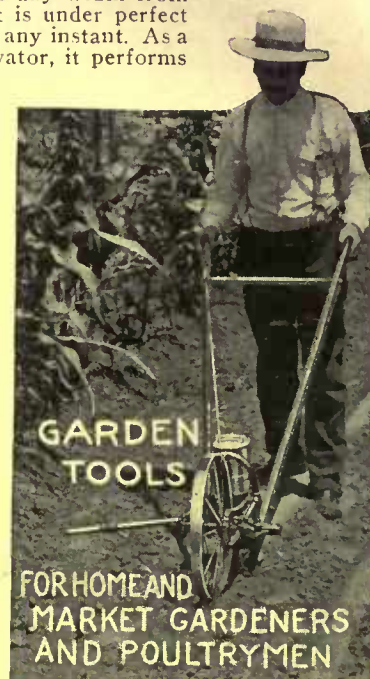
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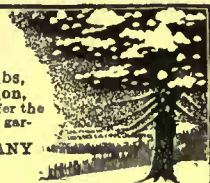
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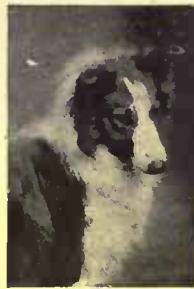
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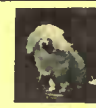
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Oradell, N. J.

The Airedale

No man who has land enough to provide proper freedom for a dog can afford to deprive himself of the friendship and protection of one. Many have the desire but hesitate at the breed. Beginning with this number, *House & Garden* will publish a series of articles pointing out the characteristics of the best dogs for the home outside the city.

HALF a century or more ago there was evolved in Yorkshire a type of dog that filled a long-felt want in the hearts of the sport-loving Britons of that Midland county. They needed a brainy animal that should be big and dead game, hardy and absolutely without fear of water or cold, a good watch-dog and a keen general-purpose hunter, for the valley of the Aire is a region of hills and rushing streams, the natural abode of foxes, otters, badgers and other lesser vermin galore. It was hard to find a breed that could satisfactorily meet all those requirements, so the Yorkshiremen determined to invent one, and the successful result of their experiments has, with some slight modifications of conformation, come down to us as the Airedale of the present day—the largest terrier.

The Airedale's ancestry is, and probably always will be, more or less a matter of conjecture. But the chances are that he was originally a cross between a grizzle-and-tan terrier that used to be common in Yorkshire, and the otterhound, the latter being a powerful dog somewhat of the bloodhound type, but wire-coated and almost as much at home in the water as out of it. Probably there were also traces of breeds such as the bull terrier, collie, Bedlington, fox terrier and perhaps others.

But however uncertain may be his early lineage, there is absolutely no doubt that the Airedale of to-day is a grand dog, strong, courageous, intelligent and with a disposition that for general attractiveness is surpassed by those of few other breeds. He will hunt anything from a mouse to a grizzly bear; he will herd sheep or do parlor tricks for the entertainment of visitors. He is obedient and cheerful, and takes to the water like a muskrat. He will be a safe and gentle playmate for the children, or a terror to tramps and night prowlers in general. He makes an ideal companion and friend, for he has the true terrier's spirit of "get up and go," combined with a certain dignity and dependability that is all his own. A good Airedale doesn't look for trouble, but woe be unto any dog that tries to impose upon him, for he knows not the meaning of the word "quit." He is of the practical all-around type and "will do anything that any other dog can do and then lick the other dog."

There is no record of the Airedale ever having been called beautiful in an esthetic sense. But there is about him an appearance of compactness and symmetry, of straight-limbed, capable strength, that cannot but excite admiration. To see him in action with all the grace of his tense muscles in perfect play and watch the pound of well-placed pads is to realize that he's a real dog. To know him well is to like him, for no dog could have built up such a reputation as the Airedale now enjoys

(Continued on page 66)



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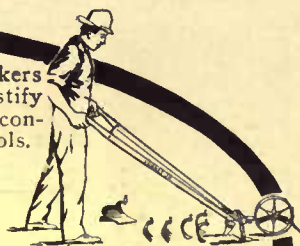
No. 16 Planet Jr. Single Wheel Hoe, Cultivator, Rake, and Plow is light, handy, and adapted to almost every garden use. Has leaf guard for close work and lasting **steel frame.**

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Poultry Department

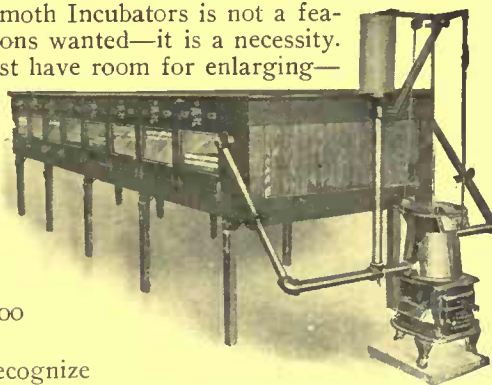
The purpose of this department is to give advice to those interested in poultry. The manager will gladly answer any troublesome questions. Address "Poultry Department" and enclose a self-addressed envelope.



YOU CAN START WITH AN 1800-EGG HALL INCUBATOR AND ADD SECTIONS TO IT AS THE GROWTH OF THE BUSINESS DEMANDS

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You can easily make that, and more too, if you have a back yard or a little land and are willing to devote two hours a day to the work. The poultry business cannot be overdone. There are 91,000,000 people in the United States, and there will be more next year, and those people must be fed. The growth is in the cities. Consumers are increasing twice as fast as producers. High prices have come to stay. Start a business of your own and get your share of the billion dollars a year that is spent for poultry and eggs.

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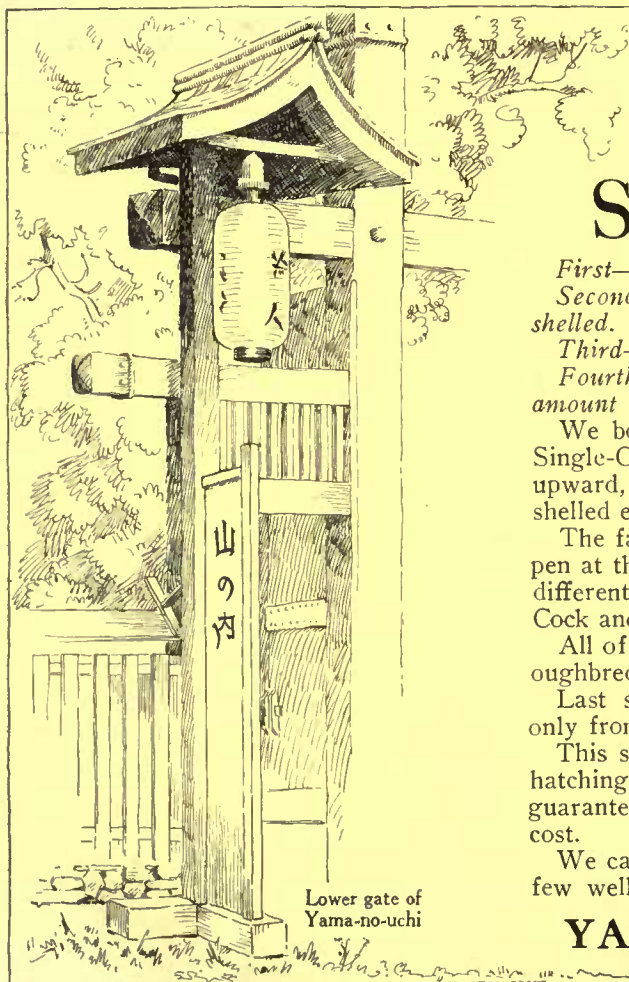
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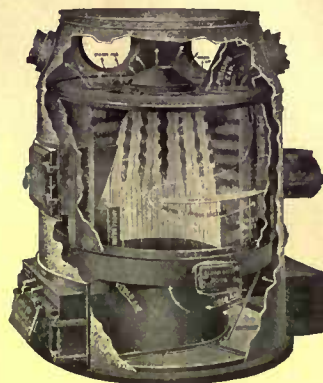
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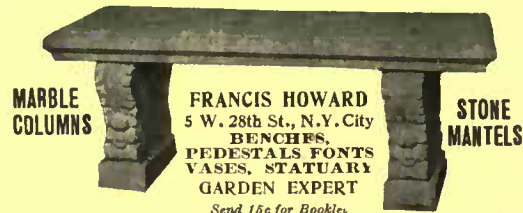
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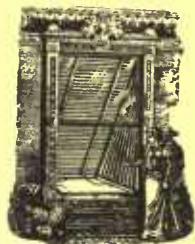
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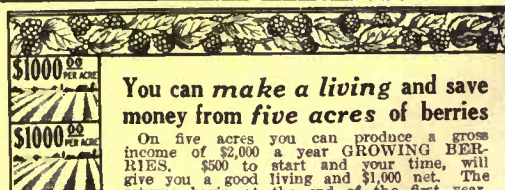
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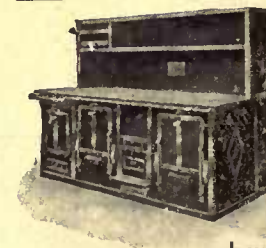
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VOLUME XXI NUMBER 2

Copyright, 1912, by McBride, Nast & Co.

HENRY H. SAYLOR, EDITOR



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In among the pines in a suburb outside of Dresden the upholders of the new school in German architecture and decoration have erected two model houses. They are simple concrete buildings with slate roofs built for utility, but preserving certain characteristics of the peasant cottages



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VOLUME XXI

February, 1912

NUMBER 2



A study decorated in lavender and brown. The furniture is of dull-finished oak in harmony with the tan wall edged by a lavender border. The portieres are striped canvas with shirred ribbon trimming in lavender

Two Model German Houses and Their Furnishing

BY EVA ELISE VOM BAUR

Photographs by Max Fischer

TO the average mind the term "German household" is synonymous with high-ceilinged rooms furnished with an overabundance of stiff-backed plush chairs and sofas, white lace tidies and heavy, gilt-framed pictures. That conception, however, is no longer correct. It concerns a style that originated in the post-bellum days when the Prussian wanted to show that he hadn't suffered from his conflict with the Frank by vaunting his wealth

in the overloading and overdecorating of his house and his city. When peace was declared, the good Michel and his wife set about fixing up their homes. They did it with more thoroughness than good taste, as is attested by the rows after rows of solid brown-stone houses with huge, unsmiling windows and entrances planted straight in their middle, that line the streets where live the autocratic and the upper bourgeois subjects of the Kaiser.



The dining-room in the model house built and furnished by Karl Bertsch. The dominating color is Yale blue, but red, green, yellow and even purple are used in the wall paper and furnishings

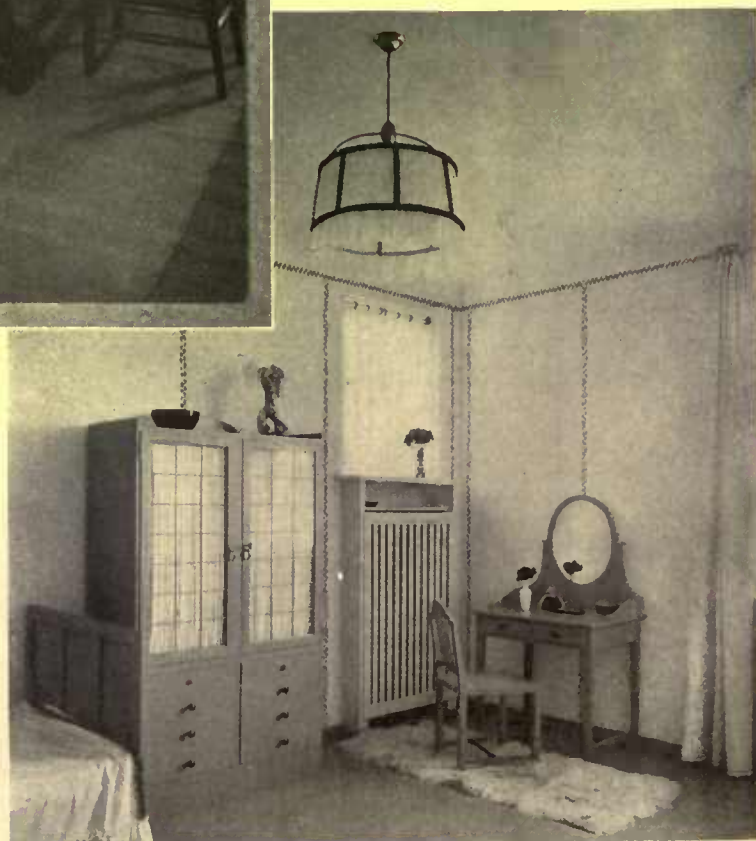
The newer generation, finding this cold expression of national affluence and solidity oppressive, went to the other extreme in their methods of house decoration. In trying to introduce a more cheerful note, they took to pastel shades, unsubstantial-looking furniture built in curves and curling outlines. Scarcely a city in the Fatherland fails to show the scar left by the *jugendstiehl* epidemic in art—if it is only a row of pale yellow houses with peacocks perched on the cornices, their graceful tails entwining the waterpipe.

But the reign of this fashion was short. It was too radical, too saccharine for the stolid, practical German. The pendulum swung back in due time to more simple and more substantial things, until to-day the slogan of the school is Simplicity and Usefulness.

The new movement began, of course, in Munich, whence come all the good as well as the freak innovations in art. As it is of this day and generation it is affected naturally by secessionistic principles and ideas, and a striking ensemble effect is produced in great part through brilliancy of color. One might almost say that sombreness of form and intoxication of color are the paradoxical essentials of this new German style of interior decoration.

The ideas of the leaders of the new school—artists and architects of renown, such as Karl Bertsch, Richard Riemerschmid, Hermann Muthesius, Theodor Fischer and others—are put into concrete form by a few craft workshops (*Werkstätte für Handwerks Kunst*, they are called in German) that manufacture everything for the inside of a house from rugs to vases and improved pepper-pots. In a model town, erected about one of these factories near Dresden, there stand two model houses, designed, built, decorated and furnished by disciples of the new school; through them one gets the best idea of the principles for which it stands. The accompanying pictures all represent the Riemerschmid and the Bertsch houses in Hellerau, near Dresden.

Believing neither in imitation nor in



A young girl's room in green tones. The wall is white plaster decorated by narrow lines of green and blue irregularly formed dots

the slavish adherence to historical ideals in art, the members of the new school adopt only those things of other times and other schools which they deem applicable to modern needs and conditions. Like the present-day musicians and novelists, they, too, believe in expressing their own age before trying to interpret another for which they have only an imperfect understanding and sympathy. To put a modern man in sombre, straight-lined clothes and close-clipped hair into a Rococo house they would consider, for example, as a preposterous incongruity, and to house a suffragette in an Empire office, an unpardonable breach of good taste.

"Art for art's sake" has no value here. Art must be utilitarian. Riemerschmid is known as the first man who built a house from the inside out; that is, with an idea of utilizing every inch of space to the best advantage and giving the first thought to the details of the interior arrangement. If every detail fits the use to which it is to be put, he contends, and each component part is made in reference to every other part, then the whole cannot help but be a perfect, artistic whole.

The new houses are modifications of the peasant house with the red roof, the chief characteristic of the European landscape. It is the simplest house known, which has answered the demands made upon it as a fit dwelling place for century after century. The Hellerau houses are made of concrete



A reception room in the Riemerschmid house showing the radiator curtain which is in vogue in Germany. This consists of brass plates held together by tiny chains; the radiator behind is unfinished



A bedroom in gray and white. The furniture is gray ash in natural finish. Color is injected in the upholstery and lighting fixtures

without wooden trimmings unless the lumber is used in the actual construction; the roofs are sloping and of slate. No matter how the house may be situated in respect to the street or the road, the most important rooms, such as the dining-room, the sitting-room and the bedrooms, on the upper floors, are given the sunny, southern exposure and the pantry, store-rooms and baths, the north and the west. When the garden lies at the back of the house, the "best side" faces it, while the more uninteresting rooms are left to greet the passersby, the idea being that the family cannot get the full enjoyment of the garden which they ought to have, when it lies beyond the kitchen and the servant quarters. The new German houses might not meet with the full approval of Americans because they haven't enough piazza, but the German, so long as he has his *Balkon*, where he can take his breakfast and supper and sip his afternoon coffee, is fully content.

Another objection which the American housewife might make



A bedroom with white enameled furniture and a colorful paper in a mottled pattern of greens, reds and blues. The grill before the radiator at the right is another means of successfully concealing it



The wardrobe is an important article of German furniture. Here it is decorated with a stenciled design of green leaves with red fruit

to the model German home is that it does not have enough built-in closets. But to the Germans the wardrobe is still a decorative piece of furniture without which no room can be furnished completely. Whenever they are set in, as in the illustration at the top of this page, they are disguised as a part of the wall or the wainscoting, like the mysterious French closets. Every tenant in Germany must supply, not only his own wardrobe, but his own chandeliers and lighting fixtures. At first this may seem to be a decided inconvenience, but after a little reflection, when one remembers how easily the landlord's choice can spoil the effect of one's carefully chosen furnishings, this custom assumes the guise of a blessing. There are no side-brackets in these model houses; a few standing lamps, it is true, but generally one adjustable

(Continued on page 65)



The entrance hall in the Bertsch house is trimmed entirely in bright blue and blue tiles. The walls are tinted a yellowish tone



An American-made tapestry after the style of those of the medieval period. The conventional designs are preserved, but the figures are drawn in correct proportions and the background is in proper perspective. It is constructed with as neat craftsmanship as any of the antiques show

Tapestries of To-day

BY R. V. GOODHUE

Photographs by Peter A. Juley

THERE is one great sacrifice made to the advancement of civilization, and that is the art of the handicraftsman. The individual must give place to the hundred-handed, fatigueless, rapid working machine that supplies those imperative demands of our present existence—quantity and speed. But this is not so with all arts. Where wealth is inclined toward art and beauty the hand-worker still flourishes. Perhaps this is one of the economic services of the best type of rich man.

Tapestry weaving offers a striking example of this, for within late years there has been a slow but sure growth in the manufacture of articles of this kind. If you care to delve among musty records you will find that the art of tapestry making is placed back in the earliest civilization; that when our ancestors began to build and make for their comfort, they discovered the simple mechanics of basket weaving, and from this grew weaving in cloth. When they wrought in fabrics they made tapestries, first for use, then for decorations. Wherever the tastes for art developed, and it was encouraged by the wealthy, then tapestry appeared. Egypt, Greece, Rome, Phoenicia, and



A portiere and an upholstered chair that are good examples of the artistic results obtained by workmen to-day

the great Oriental nations all developed the art in their golden years. To-day we find it again coming forward, for now we have a class that is able to encourage work of such expense. Not that it requires great wealth to indulge an appreciation of these works, but it certainly needs a competence not only to purchase them but to show them properly. Since the really good work costs in the neighborhood of \$100 a square yard, it requires a good income to afford them.

A glance at what tapestry really is will enable us to appreciate its worth. Tapestry is really a combination of weaving and embroidery. It is not true weaving, because in this craft the weft or cross-going threads are thrown entirely across the width of the fabric; besides, the threads may be indefinitely long. Tapestry has its warp (the longitudinal threads), as has real weaving, but the weft consists of a great number of short threads twisted in and out, making each detail of the pattern, and only long enough to make the special color wanted in a particular part of the tapestry. Then in embroidery we have an interweaving of threads on an already created and different fabric; in

tapestry the design is an integral part of the texture. William Morris, that reviver of craftsmanship, calls it "a mosaic of pieces of color made of tied threads." Such work, of course, demands hand labor and of an experienced and extremely high type.

This, then, in brief is the fabric which was so beautifully and wonderfully developed in Arras, in Flanders; in Aubusson and at the Gobelin shops in France, and at Mortlake, England. Here artists sent their painted cartoons and the weavers worked them into mosaics of colored wool, or sometimes silk and gold and silver threads. The Gobelin tapestries are still made today, but until William Morris established his Merton Abbey workshops the tapestry lover had to look to the antique, and in most cases this was almost prohibitive in cost; but in general the antiques afforded the available supply. Since the greatest artists made the models for tapestries—Raphael designed cartoons for the Sistine Chapel and Charles Le Brun for the Gobelins—there was another factor of value besides rarity, age and difficulty of construction. Only the most wealthy could afford such antiques and very few were seen outside the most palatial mansions or the homes of royalty or in museums.

So popular became the manufacture of these tapestries during the Middle Ages that they were used for manifold purposes. Indeed, it is thought that the coat of arms which we speak of was once the brilliant tapestry woven with the heraldic design of the warrior, and which he threw over his shield as a distinguishing mark in contests.

The antique tapestries picture many curious scenes of hunting and battle and incidents from the great epic cycles, and it is largely from them that we have obtained such accurate ideas of the manners, customs and apparel of the early days. Some of them are very curious, with no perspective, and castles, men and ships all of a size and superimposed upon one another. The backgrounds and foregrounds were drawn chiefly from conventional themes of curious little combinations of leaves and flowers, very much like the decorative work of the illuminated manuscripts.

The men who have chosen to revive this art of tapestry weaving have more to induce them to take up such a work than the fact that this appears to be a time when patrons can be found to encourage it. Not only is the craft one of intrinsic merit and highly developed, but the works themselves are of real utility.

Tapestry's greatest field is in wall decorations and in upholstery. William Morris, writing of the lesser arts, advises, "Whatever you have in your rooms, think first of the walls, for they are that which makes your house a home, and if you don't make some sacrifice in their favor you will find your chambers have a kind of makeshift lodging-house look about them however rich and handsome your



The designs of old masters are reproduced



Such a panel is suitable for rooms decorated in the period styles and is framed in molding

movables may be. One of the best services of tapestry is its accomplishment of the purposes suggested here, and in one of the best ways possible. The connotation of such hangings is of itself an asset. They suggest manorial halls and fine apartments and all the romance of a chivalrous age. They are at once picture and background with colors that are not hampered by the reflected glass of frames. There is no forced arrangement or collection of many different odd sizes. The hanging itself is decorative, and has the elements of design as one of its first considerations. For a tapestry does not imitate nature; it translates it through convention with ideas of relation and position, and thus appeals to the sense of order as well as to the imagination.

With the desire to perpetuate a notable craft, to make the finest of hangings and furniture coverings, several artists have gone earnestly to work in this country. Artisans from Flanders and Aubusson, with the heritage of their fathers' skill and cunning, have been set at work to bring tapestry-making up to present requirements. Just as Morris, with Burne-Jones' cartoons, made a new English type that had as much vigor and strength as the old works had, these men are producing an American type. The conventions of the old are modified to fit the new; perspective, for instance, is added. There is great care taken in the choosing and matching of colors, the combinations of few strong tones being preferred to the thousand shades of the effete Louis XIV works. Wonders of richness and beauty have been evolved after a thoroughgoing study of the art and what it offered for present-day conditions. The variety of subjects is large, and the most prominent schools of the middle ages are represented. There are the knights and ladies and classical subjects of Flemish origin, as well as the panels with their scrolls and flowers that we associate with the early Gobelins, and those which renew the Oriental motives. These are made to be hung flat with guimpe or molding borders or to be framed in with woodwork, or they are procurable for hanging from hooks. In this last case they may be removed for renovation with little difficulty.

In writing of tapestries it is but fair to mention the machine-made varieties. These technically are not true tapestries, for threads are carried across the entire work, and they are chiefly of cotton—the wool threads in a large piece would be too bulky if the design were intricate and many colors used. At best they are an inferior substitute, but have their place if they are frankly used as the machine-made variety, and do not pretend to be more. There are many good designs obtainable in panels with designs after the antiques, or in piece goods. Landscape effects or foliage in various tones are the best of these. They are sold by the square yard; the panels may be had at prices in the vicinity of eight dollars, the piece goods patterns in good taste, for considerably less.



The home of B. F. Pitman, Longwood, Mass.—Kilam & Hopkins, architects. The straight lines of the fence are broken by the vine-covered posts and gateway; the white wall is shaded by three great trees

A Colonial House and Its Garden

A HOME WHERE THE OWNERS ENDEAVORED TO REPRODUCE THE SPIRIT OF COLONIAL TIMES IF NOT THE LETTER—THEIR GARDEN OF RECTANGLES

BY ARTHUR W. DEAN

Photographs and measured plan by Thomas W. Sears

THERE once was a fine Colonial house wedged in between its "Mission" stucco neighbors on a busy suburban street. It was an exact and faithful reproduction of the old Massachusetts home of Miles Alden or John Standish or some such historical figure. On the square patch of ground behind it was the finest of Japanese gardens, which might have been dug out of Nippon and carried over bodily. The people who lived in this house had decided Empire tendencies, so that one was always wondering if they might not grow like those mythical monsters with lion heads, women's bodies and tails like fishes. Many people came to revel in that house, but it always seemed to me a pathetic sight.

Here is a Colonial house that



The entrance gateway swings a double gate with slender baluster grille

the "Empire" owners of the aforementioned place might call hoax, but in my twisted way of thinking it is genuine fourteen karat. This house, the home of B. F. Pitman, is in Longwood, a residential section, near Brookline and not many minutes from Boston. As is true of so many of this city's suburbs, it is blessed with fine old trees and many of them, and the spirit of Colonial New England seems fairly tangible, or at least audible, in the whisperings of the elm tree foliage overhanging its shaded streets. When it came to build here, the owners felt that there was no choice of a style; it simply demanded something Colonial.

Instead of following slavishly the disputed canons of this style, or making an exact reproduction of some uncomfortable house that



The use of successive lawns makes possible a beautiful vista, especially when framed by arch and arbor. The path of irregular flagstones runs to the sun-dial, branches about it and leads to the lawn below

had irrefutable evidence of a continuous existence from seventeen hundred and dash, the owners made up their minds to build a Pitman Colonial house. That is, they would embody in their plans the things that were most suggestive of the period to them; some features that they thought were very fine they appropriated from one house, some from another, and when their suggestions approached a concrete plan the genius of the architect was set to work to make such selections as were compatible with unity.

A simple, dignified clapboard house, given strength and solidity

that lie beyond. As the house was planned, so was the garden. It was to be Pitman first and then Colonial afterward. There were numerous considerations also of importance, however. First a partiality for Milton's "gardens trim" and the "smooth-shaven green" that one remembers with pleasure of the English homes. They liked the divided beds of Colonial tradition, but were not so much in favor with the stiffness of the evergreen hedges that so often framed in the flowers of the early American gardens. Finally a plan was evolved that satisfied all

by end walls of brick containing the chimneys, was the result, and it was built in among magnificent tall trees which shaded the doorway and framed the place in green boughs.

The fence and doorway were chosen to heighten the Colonial impression. The gateway now grown over with clematis has a double swinging gate opened by an attractive latch. It opens on a box-bordered, brick-paved path and discloses a doorway of the Salem type above two broad stone steps. The side panels beside the Doric capitals have a simple leaded design that is matched by a somewhat similar pattern in the flanking green lattice fastened to the house wall. The outside door is of the shutter type that one associates with homes of the Revolutionary era. Trimmed bay trees are set at the end of this walk adjacent to the house.

Such is the impression of the entrance, and it is a fit introduction to the gardens



The extreme end of the long lawn with the service yard fence on the left and the vine-covered entrance to the seed bed in the center



On the intersecting paths is set a stone lantern, and beyond it the inviting entrance to the summer-house

their various idiosyncrasies.

One appreciates the success of the scheme as he walks out from the living-room onto the porch and looks into the garden. That is the only direct entrance into it, as a desire for privacy has induced them to shut it in naturally with vine-draped fences and thick planting alongside all its boundaries. So one gazes into a little separate world, apart from the prying sight of passersby. It is a garden of rectangles with not a single curving path. Directly before you, as the plan shows, is a dirt path running left and right. Three small walks at right angles to this divide the area in four, and a smaller path parallel to the first one makes four little square beds with two oblong ones to right and left. On the center point of the crossing paths is a little stone lantern of Oriental origin, and at the four corners of this intersection are four little conical box trees which are used instead of the box borders. At the end of this same central path is a lattice summer house of dark color trimmed with white painted edges. This lattice construction is echoed in the porch trimming and in the arbor connecting the two main lawns.

So much for the arrangement—a little as to the planting. There is a fine opportunity for balance and gradations of color here. Each bed is trimmed with a narrow edging of grass, next to which the white masses of alyssum crowd, and rising a little above this are the broad leaves of geraniums. The center is



The living-room and porch have the full sweep of both lawn gardens. The arbor leads down from the square lawn to the smoothly rolled grass of the long green

generally a mass of phlox. The side beds are planted with nicotianas and early annuals, for there is a restriction that limits the choice. The family is away during August and early September, and selects therefore only early or late blooming flowers, as it seems a pity to have their beauty wasted. The fence and summer house are thick with vines, and the back beds grow tall clumps of golden glow and hollyhocks. A succession of late bloom follows in all the beds. Dahlias are then most prominent, and the cosmos is bulked into the background.



The box-bordered brick walk meets an entrance doorway of the Salem type



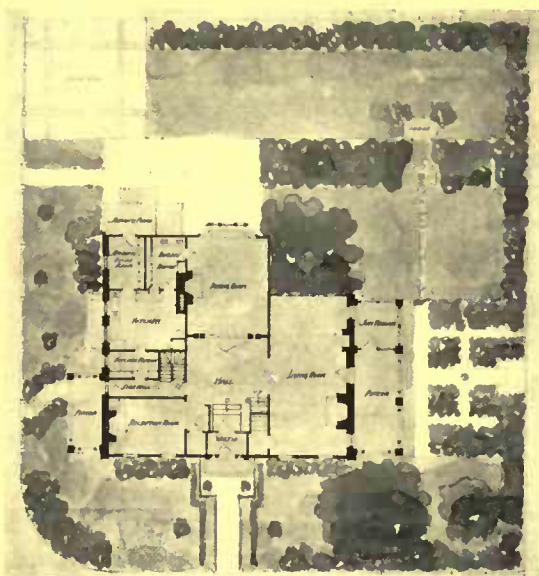
From the vestibule a flight of steps leads up to a spacious hall open to the bedroom floor



An alcove off one of the bedrooms fitted out as a window garden makes an interesting addition

Is the flower garden Colonial? Not if a reproduction of a true garden of the Georgian time in America is meant. One who is well versed in the varieties grown there might call it an anachronism. But he wouldn't be contradicted. Even though the flowers are not the proper ones or the arrangement quite correct, it has the suggestion of the regularity and divided beds of that time, and goes admirably with the modern Colonial house. In reality, when one stops to think, there is no such thing as a *modern* Colonial house. It can only be a copy of an old house, or be a new house with a few suggestions in detail from an old one. That is what this garden is—a strictly modern garden with suggestions from the Colonial. The arbor for instance is one, and is a modern application of some of the eighteenth century productions that were influenced by Chinese motifs. But if you ask whether all the parts of arrangement are strictly in keeping, no is your answer; practically they are in keeping and certainly in good taste.

A desire for vistas fitted well with a desire for lawn spaces. Turning left on the path running before the flower garden one finds a good example of the way this was worked out. A rustic arch, well grown over with wistaria, separates the garden from a nearly square lawn, which is at a slightly lower level. Running



The plan of house and garden showing the complete segregation of kitchen and service departments



The dining-room is decorated in white enameled trim, suggestive of the Colonial but with modern additions



The living-room breathes comfort and is furnished only with those antiques that can be used with pleasure

straight from this arbor is a path of flagstones let into the sod. This meets an antique dial on a stone pedestal and, dividing, runs around it, under an arbor leading down to a narrower lawn that runs nearly the whole width of the lot. The straight line leading the eye beneath two successive arches gives the effect of greatly lengthening the distance. Besides, it picks out and frames portions of the landscape, bringing them out as one does focussing on selected portions of a painting, and thus adds to the picturesqueness of certain details. The first lawn is thickly hedged about with thick shrubbery and bushy plants, and the sun-dial set in the thick foliage with a guardian evergreen at either side, makes a distinct and very attractive garden nook.

The long lawn beyond the arbor is less densely planted. Its upper side has a low lattice fence covered by a luxuriant growth of nasturtiums. This meets the higher fence of the laundry or service yard, for this department is quite shut off on all sides by a high wooden fence surmounted by a lattice. At the extreme

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JAPANESE STENCILS

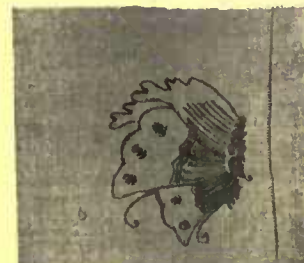


The stencil above was used to give the design for this embroidery

A NUMBER OF BEAUTIFULLY EXECUTED AND ATTRACTIVE DESIGNS THAT MAY BE HAD—USES TO WHICH THESE STENCILS MAY BE PUT IN FITTINGLY DECORATING THE HOME

BY HETTIE RHODA MEADE

Photographs by the Author



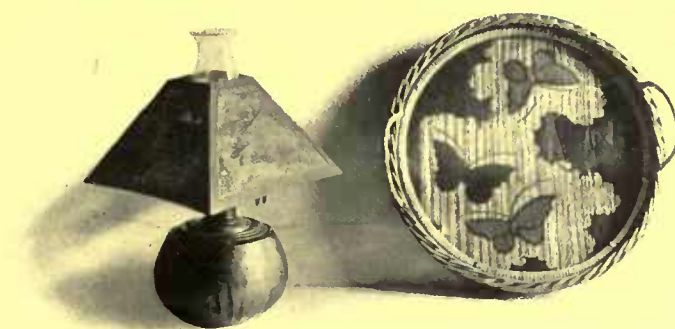
Patterns stenciled on cloth may be embroidered for many articles

THAT the Western world is gradually beginning to see that some good can come out of the East, is noticeable in the growing appreciation of Japanese art. But it has taken the very recent years to find practical as well as decorative uses for it. The stencils now form a new field for those interested in handicraft.

For centuries the Japanese have printed their silks, linens and cotton goods, all fabrics in fact, with these carefully worked and intricate patterns. They cut them from heavy paper and use a variety of shellac so that they do not absorb the moisture of the color. The designs, ranging from hair-like fineness and maze-like intricacy to bold patterns of comparative simplicity are cut by hand. Indeed it is difficult to understand the accuracy of the hand that guides a knife with such precision. Like all the arts of the Japanese people, however, it is the practice of centuries that has wrought such skill. The art of stencil cutting may well be called a fine art, though among these people with their highly developed artistic perception, the cutting of these paper patterns doubtlessly was considered little more than artisanship.

Most of the stencils that one may gather to-day are old and have seen much service, but one occasionally finds some unused stencils. The rich brown tones of the old work, stained by the frequent application of inks and paints, seem most desirable, however.

Almost all the stencil patterns will be found to repeat—but the



Stencils used as lampshades give striking effects when illuminated. This one has a good companion piece in the butterfly tray



A design may be carried out with a number of stencils used for different purposes. Here the butterfly pattern is repeated on the curtains, table-cover and the pictures

amateur worker with them will be surprised at first to find them so narrow. All Japanese fabrics, at least those that they make for their own use, are narrow—scarcely over fifteen or sixteen inches wide. So much is now made for importation that one finds twenty-seven and thirty-six inch silks and cottons with Japanese designs, but these are made particularly for the foreign trade.

When it comes to the use of the stencils, the person of small experience should beware the fine and more intricate patterns and restrict himself to those in bold outlines and on extra heavy paper. The Japanese use a brush made of badger hair, a very primitive and unique affair, with a square, broad face. These brushes hold a great deal of color without having it too moist and are most satisfactory to work with. Bristle brushes are the best brushes to use when those made by the Japanese cannot be procured.

Besides using stencils for the purpose for which they were made—that of stenciling goods—there are numerous ways to employ the paper patterns themselves. Lamp and candle shades, trays of willow or mahogany, with stencils set in, pictures, lamp-screens, window transparencies and even large windows may be made of them.

A charming window made of many stencils of varying design carefully arranged and fitted together is more suitable to use in a room where extreme simplicity of line and color has been kept,



Japanese bird designs come in endless variety

than a stained glass window would be, and is equally handsome and much more unique and unusual. I cannot recommend anyone's attempting to make a window of stencils. Only the skilled fingers of the Japanese could so carefully join the edges of the varied designs, but they may be made to order by a Japanese workman, and they are very beautiful when in place.

Trays are a simple matter to make. Mahogany or walnut trays may be bought at almost any department store, and many of the stores carry willow trays, or they may be bought where willow furniture exclusively is sold.

After selecting the size and shape tray and a stencil that will fit into it without much waste, for it seems a sacrilege to cut these beautiful lacy patterns, the work of making an artistic tray is very simple. There is usually a piece of cardboard or thin wood under the glass. Cover this with silk, the color you have decided to have your tray. This must be carefully stretched and may be done by stitching it back and forth with a strong thread—carpet thread is best—or it may be pasted down. The folds resulting on a round board should be pressed flat.



A translucent lamp screen made from one stencil cleverly cut and matched by Japanese workmen



One of the simpler patterns that suggests a unit design to be repeated



The Japanese love of flowers is evidenced by countless designs

As this board fits into the tray, it will not be necessary to finish it carefully on the back, though a piece of heavy paper can be cut to fit the board and pasted over the back, if one wishes to make a very neat piece of work.

Cut the stencil the exact size of the silk covered board and paste it down by touching here and there with a little paste. Over this put the glass. Where willow trays are used they may be stained to match the silk. The best effect is obtained by staining the tray and rubbing off some of the color. This leaves the darkest tone in the crevices and gives an irregular finish, which is much more effective than a solid color. Stain the willow rim which holds the glass in the same way, and when both tray and finishing rim are dry, tack the rim in with a strong thread of the same color. This will hold the board, glass and rim securely in place.

The little lamp shown in the



The delicate tracery and intricate patterns make it seem impossible that the designs were cut by hand

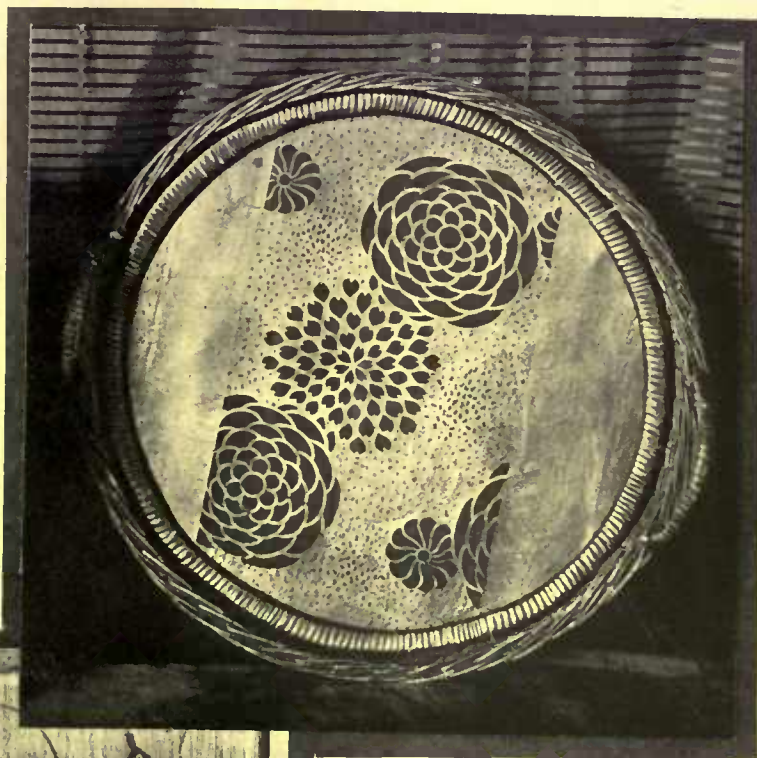


When used under the glass of willow trays the Japanese stencil adds an attractive note that is hard to duplicate with other materials





Design is combined with exquisite detail in many patterns



A good example of a willow tray with a bold stencil design fitted within it



Such stencils as this are fitted for window use

illustration is made of a Merrimac pottery bowl, which cost \$1.50, a central draft font costing \$1.25, and the shade is made of two Japanese stencils mounted on a cardboard frame purchased for 10 cents. The sides of the frame measure $3\frac{1}{2}$ inches at the top and 10 inches at the bottom. One stencil (a 10 inch x 16 inch size) will make two sides of the shade, and at 75 cents each the cost is \$1.50. The shade is lined with blue silk. It takes one-half yard of narrow silk, and in this case the silk cost 60 cents a yard. Then there has to be a wire frame to hold the shade. These have to be made to

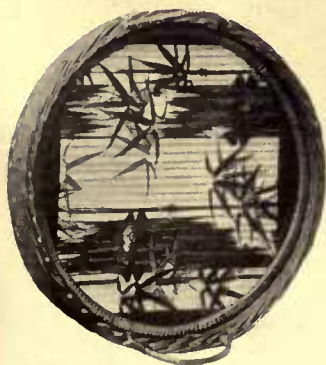


Simply framed, a Japanese stencil makes a beautiful substitute for the prints one sees so often used as wall decorations

bought at the stores which carry a variety of lampshades. Very beautiful stencils costing several dollars apiece and far more expensive silk can be used for the lining, where a handsome and expensive lampshade is desired. A round shade or a six-sided shade may be made in any depth and size desired, and with little or much flare according to the place where it is to be used.

Stencils may be used as decorative pictures by mounting them on white cardboard or silk, light colored enough to show the tracery of the design. Light or dark oak, mahogany or a plain black moulding will be best for frames. Window transparencies may be made in the same way, omitting the pasteboard backing, and using a molding with a double rabbet, which will permit a glass on both sides of the stencil. This will be necessary to protect it.

(Continued on page 49)



Where the stencils are used in trays, those only should be selected which can be used with very little cutting



Certain attractive combinations of designs are available, such as these—iris conventionalized and butterflies

A Beginner's First-Year Garden

HOW A GARDEN WAS MADE TO GROW IN A YEAR SO THAT IT HAD THE LOOK OF BEING PLANTED YEARS AGO—THE PLANTS THAT PROVED SUCCESSES AND HOW THEY WERE ARRANGED

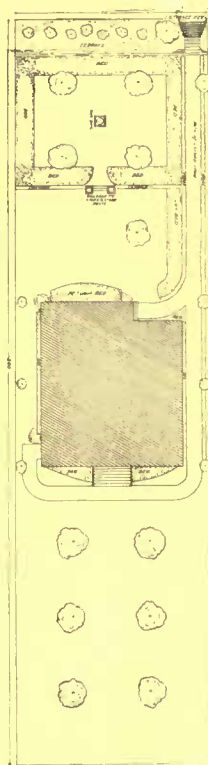
BY LOUISE TAYLOR DAVIS

Photographs by the author

NOW that the splendor has departed from our garden, the Amateur Gardener and I can reflect on the triumphs and failures of last season. A year of gardening seems to divide itself naturally into four periods. There's the period of Expectation, beginning, usually, as early as January, when your enthusiastic garden lover pores over catalogues, draws numerous weird little diagrams on every available scrap of paper, and goes about with his brain filled with thoughts of seeds and plants and soils and fertilizers. Then, about the first of April, ensues the period of Preparation—a time of digging and planting, of alternate hopes and fears, of paving the way, by the sweat of your brow and the ruin of your finger-nails, to the wonders which are to follow. Gradually the days wear on, the sun feels a little warmer on your bending back as you work in your garden beds, the birds arrive, familiar little green things begin to stick their heads up into the air and look around—and there you are, landed suddenly in the period of Realization. Of course your struggles and labors aren't over then, and you can't sit back and rest. You've got to water and weed and thin out and cultivate, and do lots of other things and keep on doing them. But what do you care for that when one flowery miracle is rapidly succeeding another, and you are finding, to your rapt delight, that the roses *are* going to do well, after all, and the clematis has grown an astounding number of feet. This period of Realization is the time to store away enough memories to brighten up a bit the last period—that of Meditation.

The maker of a first year garden can turn his meditations to very good account by trying earnestly to determine just where and why his garden failed or succeeded. That's what the Amateur Gardener and I are doing now with an eye to the future.

Last summer was our fourth summer in our home, and, to our shame be it said, the first summer we have had a garden. At the time the house was built there were already twelve young peach trees on the place, and as soon as we had moved in we set out six little Lombardy poplars, three on each side of the house. These trees and the grass on the new lawn constituted all



The plan and arrangement of the first year garden

our planting for that season. The two following years we went out in the spring and half-heartedly planted, in beds near the house, a few of the flowers which generally constitute the gardens of people with no imagination—sweet peas, nasturtiums, and the like. Having put the seeds into the ground and patted the earth down over them, we considered our whole duty done, and left the rest to the flowers themselves. The results were not brilliant. Then on a day last March, when, for the first time, spring was in the air, the Amateur Gardener and I reformed. We stood on the porch and surveyed our surroundings discontentedly.

"This place looks bare," said the Amateur Gardener. "We ought to have bushes and vines and things." He waved his hand vaguely in the direction of our uninteresting back yard.

"What we need is a garden," I said. "But it's such hard work."

"If you will, I will," said the Amateur Gardener. "Work, I mean. Let's make this place look like something."

We shook hands solemnly on our compact, and went in the house and unearthed an old seed catalogue. From that moment to this the garden has been the subject uppermost in our minds and most prominent in our conversation.

The chances of making the place "look like something," as the Amateur Gardener had said, did not seem very promising. I think we both had

in our minds at first, as a sort of vague, half-formed ideal, the velvety lawns, the masses of neatly clipped shrubbery, and the mathematical flower beds that one encounters along a well-kept suburban street. Inasmuch as we don't live on a well-kept suburban street, but on the outskirts of a little village which is so far from the city as to be almost in the real country, we soon realized that we must cast aside our neat suburban ideal and, to the best of our abilities, evolve a garden scheme which should be in harmony with our surroundings.

The conditions confronting us were rather unusual. Our lot is on the slope of a hill, and at



The cottage fairly demanded a vine covering which morning glories and clematis well supplied



Yellow day lilies acquired from a tumble-down house bordered the long path



Four cedar posts and bean poles were the basis of the picturesque pergola entrance



At the foot of the terrace phlox and larkspur grew in careless profusion

the back, where it adjoins the road, lies several feet below the street level. At the other end the lot runs off into a field, which is itself a beautiful garden in summer, knee-deep in grasses and wild flowers. On either side extends the peach orchard, of which our own trees are a part. In the orchard also, grow grasses and wild flowers of all kinds, from the earliest violets to the golden rod and Michaelmas daisies that defy the frost. We felt that we must discover for our own garden a treatment which should in no way clash with the beauty of the natural garden surrounding us. There must be, we felt, no artificiality, no straining for effect, nothing to mark with a sharp dividing line the place where cultivation ceased and the wild growth began. We wanted our garden to be a beautiful whole, but we wanted it just as much to be an integral part of a beautiful landscape.

Our house was built with its back to the street, so that the front porch might command a wonderful view of rolling country. We decided to do very little planting at the front of the house. Our eyes, we felt, would always be so busy with that lovely distant landscape that there would be few glances to spare for a foreground, no matter what flowers grew there. Our real gar-

den must go at the back of the house where we could appreciate it.

We were very busy all through March, discussing, arguing, frequently disagreeing, in our efforts to work our plans. We felt well repaid for this trouble, however, when the actual work began, for the plans on paper proved invaluable. We approached our garden-making with a definite idea of what the place as a whole was to look like, and I am sure the results are much better than if our beds had been dug and our planting done more or less haphazard. Of course there were many changes in the plans. As we worked, one thing would suggest another, and we find now that things have been done that we didn't intend to do, and things left undone that we did intend to do. Still, these were only details, and the original plan as a whole has been adhered to.

The first real work was the setting out of the privet hedge, which was done the first week in April. We had bought 325 two-year-old plants, and the Amateur Gardener planted them eight inches apart, to form a hedge on each side of the path as far as the kitchen door. There were enough plants left to extend along the outside of the path as far as the front porch. The plants

(Continued on page 49)



Two railroad ties as steps placed between rough field stone led into the lower level of the garden



The petunia seedlings proved wonderfully prolific and lent a rich color to the beds with their purplish bloom

The Naturalizing of a City Man

Editor's Note:—The author of this narrative—begun in the December number—had refused to write the story of his experiences in going from business life to a farm. His objection was that the published account taken from his closely written diary would contain nothing of the joy and inspiration he felt in getting close to Nature, and would be merely a matter-of-fact list of happenings with their message lost. He finally consented to write it in his own way, allowing memory and imagination to lend color to those days of struggle which are now cherished recollections. He preferred to hide his identity under the disguise of another person, but the essential facts are true and full of practical information. This is the third installment and describes the early activities in the city man's country life. Subsequent issues will give further details of how their problems were met and overcome.

A COLD spell of more than usual severity had kept the sledding at top-notch for several days. All hands were turning their best efforts to rushing through what remained of the wood-cutting job. Mr. Mantell had acquired Squire Hunderson's discarded one-horse sled by "swapping" for it a day's labor on the part of Raffles and Robert. And then, with an extra heavy load of wood on, the sled had slewed and tipped, over a large rock, and both stake-chains had parted under the strain.

That was about ten o'clock in the morning, and Raffles hastened off to town to have them welded at the blacksmith's—a two-hour job at the longest. Noon came, and passed, and Mr. Mantell put in half the afternoon trimming trees that had been felled and cutting out small ones. Still no Raffles! So Mantell went over to the Squire's to telephone, and found out that his chains had been ready since eleven A. M., and that the liveryman next door had taken pity on the horse and brought him in out of the cold wind and fed him at noon. No one knew where Raffles was.

Mantell had the liveryman send the horse out—which cost a dollar that was needed for many other purposes—and got down a load of wood.

About dusk the cold silence of the frozen world was broken by a high and somewhat unsteady voice rendering a sentimental ballad about some "Mar-ee," and Raffles, enthroned in an automobile and smoking a large cigar, came down the long hill and up to the front door.

"Ben-Del-Ile, he's a frien' of mine," explained Raffles. "Take a man home quicker'n any horse. He runs th' garage."

Then he proceeded to unwrap with great care a box on the floor of the back of the machine. It was too heavy for him to manage, so Mantell helped him out with it. It was about as heavy as lead.

"Be ca-careful," said Raffles. "First purchase for Garden D'partmen'; been on D'partmen' business all day—worked hard."

"What have you got there?" demanded Mr. Mantell sharply, as Mr. De Lile and his machine took a somewhat sinuous flight toward the front gate.

"Ph-togerfers' plates!" exclaimed Raf-



It was Robert's duty at the close of school days to do the evening chores, and the most arduous of these was the splitting of the newly cut logs

fles proudly. "Tell you all about it, Mr. Mantell."

In his present condition there was little use arguing with him, so Mantell patiently listened to the incessant and sometimes disjointed babble of words which followed him persistently during the several operations of feeding, bedding and milking, which that night he felt it advisable to do himself since Robert had gone skating. These "chores" were his duty in the evening just before he split the wood for supper, but tonight was his holiday. The gist of Raffles' Niagara of loquaciousness was that Raffles' great plans for the Garden Department made a

greenhouse absolutely necessary, and as the company didn't have enough capital to have one put up, he was going to build it himself.

The first requisite of a greenhouse was, of course, glass, and the best price he had been able to get on this at the hardware store, even by the box, with no allowance for breakage, was prohibitive. It was the disappointment, declared Raffles tearfully, which had driven him to taking a glass of beer, and that had given him the inspiration about the photographer. He had bought a hundred old plates at a cent and a half apiece. He had started in to clean them, but the fumes of the acid the photographer had given, he said, made him dizzy—he was a little dizzy yet, he thought—so he had secured a box and packed them as they were.

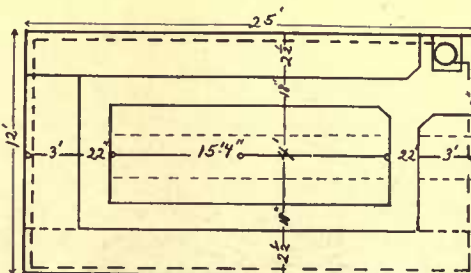
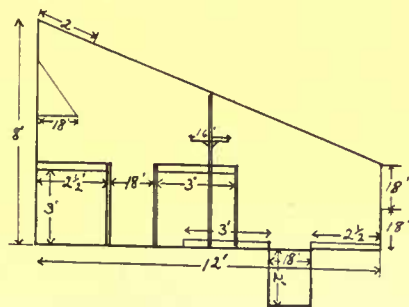
The temperance lecture which Mantell had been preparing for his "manager" was curtailed by the statement that Raffles had signed the pledge. He exhibited his card with some pride.

"I'll finish what I've got, and then no more for a year," said Raffles.

Mantell was not pleased. He had little faith in pledges. He had had some experience in handling men, and now he tried a little experiment.

"I've heard that old story before," he said sternly. "I know your sort, Raffles. Plenty of ability, but no will power. You're hopeless. You'll break that pledge in a month. I know it. You can't help it. You haven't got it in you to stay straight. You haven't got gimp enough to, any more than you could smash the rest of that pint, instead of swallowing it. You're a weakling."

Raffles flushed up, but did not lose his



Raffles' greenhouse plan afforded much bench room and had the advantage of raised and solid beds

temper. His pride had been stepped on and on a subject that hurt.

"Is that so?" he said slowly, and taking the bottle out he broke it against a rafter. "We'll see about that!"

It was just the result that Mantell had hoped for. The incident was closed, and so was Raffles' connection with the cause of it, but the germs of the greenhouse disease, however, had been thoroughly planted and everyone caught it.

The photographer's place was ransacked for all the old plates he could spare. These were 8 x 10" in size, and there were four hundred of them. The job of cleaning them was no fun. However, Mrs. Mantell's suggestion of doing a certain number each night, after cleaning up the kitchen work, reduced the task to a minimum.

Raffles made a sketch of the proposed house. They found an ideal location for it south of the barn—a regular cozy-corner which furnished their north wall ready made. Estimates showed, however, that they needed at least 552 square feet of glass, while the amount purchased so far came to only 460, and the photographer said he had to take photographs for at least a year more before being able to supply them with the balance.

Squire Hunderson had laughed for two days when he first heard of the proposed greenhouse.

"Going to—to set it on top of the frozen ground?" he inquired, scoffingly—to the extent, that is, that it was possible for him to scoff! "Going to have Christmas roses blooming in the snow? It is ridiculous, sir! No one 'round here ever heard of such a thing."

A few days afterward, however, he stopped and took Mr. Mantell off to town, on one of his dark trips. He had hunted up a contractor, from whom Mantell could get quite a lot of second-hand glass, in old windows, at a cent a light. And they got at

this place also twenty-five second-hand cellar windows 14" x 24" at ten cents each with the glass intact, and an old glass door for twenty-five cents.

Raffles was very much pleased with these things, and at once carefully drew up a plan for his greenhouse. He called Mr. Mantell's attention to the fact that building it in this way they would get a great deal of "bench space" with a minimum of material. In the first place, the back wall was already erected. In the second, the arrangement of the benches and beds was such that it actually gave them more than the total floor space of the house,

including the paths, and without throwing any parts in shade; and thirdly, they had the benefit of having both raised benches and solid beds, a distinct advantage for the general purpose work they had in view. And there was in addition the simplicity of the heating problem, as the pipes for hot water, which Raffles expected to use, crossed the path at only one point, and that where they could go below it, as it would be at the lowest point of the system. The posts they cut in the woods and had sawed out at the mill. Squire Hunderson himself proposed swapping some of his dry pine lumber for green timber, so that they could get dry material that would not warp and have it sawed and milled into the shapes they wanted at the sash and blind shop in Priestly. So this good advice was acted on accordingly.

Raffles had already subscribed for a weekly florists' paper, and sent for a number of greenhouse material catalogues. From these he got a great many good suggestions at the cost of three or four postage stamps. He finally ordered a few iron fittings and twenty-nine thirteen-foot "sash-bars," and two "end bars" of cypress. These cost about the same as the local mill would have charged merely for turning them out, with the material furnished. Including the freight these cost him thirty cents each.

The different materials were gradually gathered together, not without difficulty, and not without exciting the curiosity of passersby. Such "goings-on," especially on the part of a newcomer—and a "city bug" at that—did not go unchallenged. On more than one occasion was Mantell hailed, when he chanced to be near the barn, and cross-examined by a doubting native; and his crazy schemes furnished a nocturnal theme for the old-timers at the Priestly Junction store. And it must be confessed that Squire Hunderson took a secret pleasure in throwing out hints that made things worse than



The following morning found the hill and forest covered with a four-inch blanket of snow

they were, and which, of course, became more and more exaggerated as they were passed on, especially as it was very seldom that any member of the Mantell household was present to correct or contradict any statement made. One interested neighbor (that is, he lived within five miles of Mantell) wanted to know if it were true that he was going to put up a big hothouse and grow roses for some of the "swell set" in New York (from which the Mantells were popularly supposed to have dropped); and another asked if he really thought it would pay him to grow "truck" to

(Continued on page 53)



The plain and unattractive kitchen exposure to the southwest was converted into a most pleasing appearance by the addition of a bow window and a high lattice fence covered with vines

Homes That Architects Have Built for Themselves

THE REMODELED HOUSE OF HOWLAND S. CHANDLER, ARCHITECT, AT NEEDHAM, MASSACHUSETTS.
WHAT WAS ACCOMPLISHED WITH FEW RADICAL CHANGES IN A HOUSE BUILT IN 1801

BY MARY H. NORTHEED

Photographs by the Author

SEARCHING for a dwelling that could be converted into a comfortable summer home, Mr. Howland S. Chandler, architect, of Boston, chanced upon an old house at Needham, Massachusetts, that seemed to answer requirements, and he purchased it. It was a square-framed dwelling, two stories and attic, with a kitchen ell at the rear, quite ordinary in appearance, without any unusual exterior features. It had been built in 1801, at a time when work was thoroughly done, and as a result, the frame construction was wholly



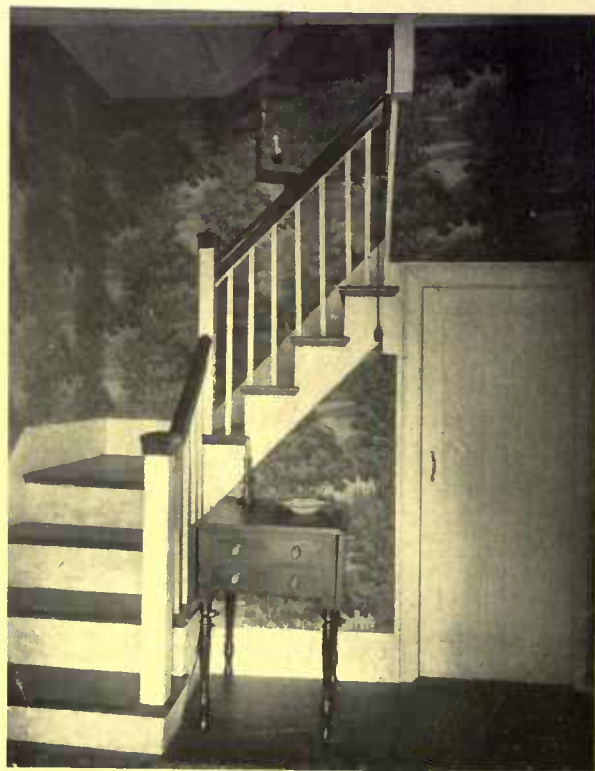
Dormer windows relieved a monotonous roof line and let in light to the apartments built in the unfinished attic space

sound. Inside, a small hall opened at the left into a large parlor, distinguished by a good fireplace with simple mantel and some wainscoting of old-fashioned wide boards, while at the right was the dining-room, opening into a small bedroom, located just back of the hallway. Beyond, in the rear ell, was a good-sized shed, and beside it was the kitchen.

The dwelling fronted the southwest, an arrangement which secured but little sunlight for the main rooms, while the rear, which was wholly sunny and cheerful,



The dining-room's single window was built out and made a fitting and useful place for houseplants of various kinds



A tapestry paper in green tones contrasted well with the simple white enamel of the hall woodwork

and commanded a delightful view of brook, mill pond, and distant hills, had been little considered. Two small windows—one in the kitchen and one in the bedroom—were inserted here, the owners evidently preferring to sacrifice view to prescribed formula of arrangement, which seemed to demand that houses must be built parallel to the street line, with the best rooms at the front.

In the process of remodeling, the original contour was left unchanged, additions being depended upon for development. A good-sized porch, with brick floor and high-backed settles at the sides, replaced the unattractive old-time entrance, and the long, monotonous roof line was relieved by quaint dormer insertions, which afforded light to the apartments evolved from the unfinished attic space. A brick-paved terrace was arranged at the left, just outside the original parlor, and at the rear, beside the shed space, an addition was built, running from about midway of the shed to the line of the chimney in the parlor, and without a large covered piazza was added. To the

kitchen ell, an addition of about four feet was made to provide space for a vestibule within the new back door, and also to secure extra space at one side of the room that a window might be inserted to render it lighter.

Due attention was paid to the rear in the matter of window development, and here were laid out rooms which would be frequently used. In consequence of this re-arrangement, the interior

was practically wholly changed. The shed was made over into a charming sewing-room, opening at one side onto the piazza, and the new addition beside it was combined with the original little bedroom and a small portion of the parlor to secure space for a library. This made possible a passage by a door to the dining-room and sewing-room, and by a broad, open space to the living-room.

The old-time parlor showed two deep closets beside the fire-place. One of these was torn out, a window being inserted in the outer wall, and a seat built beneath it, while the other was done away with to make the opening into



By slightly reducing the height of the window casings the wall paper and molding were carried above them, doing away with the original cramped effect

the library. This arrangement secured additional light, and at the same time permitted a broad glimpse of the picturesque rear view.

In the dining-room, several changes were made, and the result was a complete change in shape and size. Oblique walls replaced the two rear corners, one containing the doorway leading to the library, and the other affording entrance and furnishing some space for the china closet which was inserted between the dining-room and the kitchen. The single window on the southeast was replaced by a semi-octagonal bow recess, fitted with small lights of glass, affording space for the grouping of numerous pretty plants, and incidentally adding a touch of distinctive beauty.

The kitchen received its share of consideration in the process of making over, resulting in the substitution of a pleasant, convenient apartment in place of the rather conspicuous, ill-lighted original room. A built-in refrigerator was added at the right of the vestibule, and about the side walls of the room proper, built-in cupboards were grouped.

Two other important changes in the body of the houses are worthy of consideration. One was the enlargement of the cellar, made necessary by the greater space demanded by modern heating apparatus, and the other was the substitution of the original small-paned type of windows for the two-paned type which in the course of time had been provided to take the place of the old-time worn-out ones.

The decoration of the revised interior completed, the transformation from the commonplace original to the present charming abode took place. A pretty tapestry paper, of landscape design, in varied tones of green, combines with white paint to convert the hallway into a simple, dignified entrance, and the contrasting tints of the same coloring in the paper, secures the effect of more space than is really the case. In the living-room, a dull red paper above a white dado provides a fitting background for the display of



The library was finished in dark brown and surrounded with built-in bookshelves of corresponding color

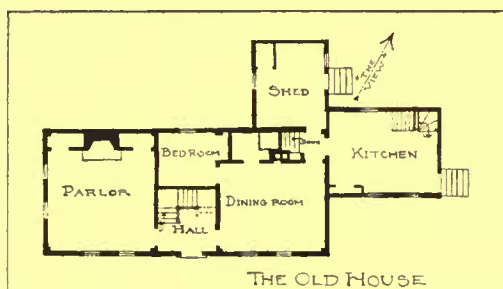
fine old mahogany with which the apartment is equipped, while the dining-room is provided with tapestry hangings of dark greens, browns and yellows, with a design of pine cones and needles, which contrast charmingly with the white dado. A slight reduction in the height of window casings in dining-room and living-room afforded an opportunity to carry the wall paper and mouldings over across the windows, avoiding the cramped effect of the too high original window arrangement.

In the library, which is a fair-sized room, with built-in window seat occupying the space across the two windows, and the remaining walls occupied principally by bookcases, the trim is stained dark brown, the bookcases corresponding in finish, while the hangings are tan in shade. This room with its cheerful outlook is one of the pleasantest in the entire house, and with the sewing-room, and living-room, combines to bestow upon the rear of the dwelling the consideration of which it is worthy.

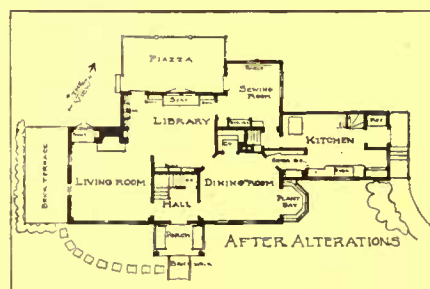
The dwelling complete is an interesting example of successful and tasteful remodeling. Exterior and interior are wholly in harmony, and the result is a comfortable and attractive home, secured at a much less cost than if an entirely new house had been built.

Besides this it is an interesting example of an architect's ideas of tying the

the house and its setting together. In its original state it had the appearance of being dropped on top of the ground and seemed no more permanent than a tent. The architect, realizing the possibilities of an irregular site, made the additions fit into the topography by giving a descending series of roof lines and completing this with a lattice on the same principle. (The first illustration shows this to advantage.) In this way, when the vines are grown, the house will be an integral part of the landscape and blend into it rather than stand out from it as it did before remodeling. This is alteration of the right kind.



The old house had its principal rooms facing the street. The changes made took advantage of a fine view by putting the most lived-in rooms on the other side



The kitchen was not neglected and was made serviceable by its quota of useful built-in furniture



Almost the entire business of the woods is a struggle to take life or preserve it, and the recording snow makes note of each incident with broad impartiality

Stories In the Snow

THE LITTLE TRAGEDIES OF THE WOODS AND FIELDS THAT FOOTPRINTS IN THE SNOW CAN TELL—AN OPEN BOOK THAT WINTER OFFERS THOSE WHO REFUSE TO STAY INDOORS

BY WARWICK S. CARPENTER

Photographs by the author and others

REYNARD had been about in the night. He had come out of the woods at the back fence and up the hill along the line of the old stone wall with its thick screen of snow-lodged raspberry vines. Thence unerringly he had pointed straight for the chicken coop and had sniffed longingly at its closed door. Then seeking again the shelter of the wall, he had gone back as he had come, to earn his breakfast honestly among the big, white rabbits of the swamp. Like a neurasthenic that he is not, he has a well-marked dread of open places, and much prefers the protection of some overhanging fence or concealing hedge when he ventures out of the timber to forage abroad. Accordingly his tracks are often found along the drifted fence lines, public highways of so many creatures of the wild whose business takes them into the haunts of man.

But in the woods Reynard's affairs are spread out upon a broader scale. His lines of control are drawn upon every elevation and slope, and follow into each nook and cranny of the forest, until we may be sure that little has gone on there which has escaped his astute espionage. It is interesting to pick up the thread of his wanderings and follow its twists and turns. It is quite unmistakable. One footprint falls almost squarely in front of another, making a clean, straight line, and indicating a preciseness of body quite in keeping with his well-known habits of mind. Often he travels aimlessly, winding in and out, doub-

ling and circling, or walking straight up the trunk of some fallen, inclined tree for a better view at the top. Again he has an errand of much importance which takes him straight away over ridge and valley to some far swamp. There, after a little, he appears to have been joined by other buccaneers of his color, so much have his tracks multiplied, and to have investigated every rod of the cover and run down every beaten pathway of his quarry. In a single night he can make a fair sized rabbit swamp look much like your own city backyard when it has hemmed in the activities of a lively terrier.

Those same rabbits that interest Br'er Fox so intensely are themselves prolific track makers. On moonlight nights after a fresh fall of snow has cleaned the forest floor, they come out in force to reopen their old runways and weave fresh patterns with the shadows of the trees. They must course the whole night through, in the ghostly light of a winter moon, for by the time the morning sun has blackened the half-tones of the moonlight shadows, their territory is again well organized, with trails, short-cuts and stopping places, and full of all the erratic wanderings of restless feet.

One is prone upon first sight to mistake the direction that a rabbit has taken, or, if he has seen him go, to think that, like the horse upon which that Briton of history escaped, he has his shoes on backwards. He throws his long hind legs forward at each



The footprints here show where Br'er Rabbit was hard pressed by a dog whose master brought up the rear



Those winter-bravers, the crows, leave a trail that the inexperienced often mistake for game tracks



The rabbit's snowshoe-like hind feet swing in front of his forelegs and indicate the direction of his trail

leap, until they pass the stubby front ones on either side and strike with their broad snowshoe feet well ahead. Rabbits are ordinarily leisurely travelers, hopping quietly along upon no apparent object. But when occasion demands, they seem literally to have drawn on seven league boots. This may be when your hound has unexpectedly routed one out of his retreat and is nipping and baying frenziedly at his very heels for a few bounds.

You can read afterward what has happened, and if the chase has led down hill, the tracks will be yards, I had almost said rods, apart. But the rabbit soon gains the lead and proceeds carefully and methodically to throw his pursuer off the track. He is in no particular hurry about this, unless the dog is very fast, the footing good, and the scent strong and fresh. He will sit down frequently to look back, then go on a few rods and turn sharply to one side. The dog will over-run and have to hunt about for the trail again.

Br'er Rabbit loves to sit snugly under some sheltering spruce in his home swamp and "spec'late." What "spec'lations" of deep import are carried on under those tapering cars, I have no means of knowing, but that they consume much of his time is clearly evident from the many little areas of hard packed snow where he stops for his cogitations. The white ones of the big woods have no burrow, and in stormy weather they crouch in some retreat until the snow has entirely closed them in with its warm blanket. When it clears they throw it lightly aside in full assurance that another will meet their necessity.

The partridges also know how warm the snow will make them and plunge precipitately into it as night draws on. Their little, temporary houses must feel cozy indeed when the thermometer is dropping down about thirty below zero and all the wood folk are making what shift they can to keep life intact. The entrance sometimes slants downward for a foot into the snow and terminates in a little chamber where the bird nestles. About the openings are wing prints, clearly defined. Occasionally the entire top snow has been thrown violently away, evidence of a startled flight at the sensed approach of some enemy. When it snows in the night they are buried deep, and I have had them burst out from the clear expanse before my very feet with a suddenness and noise which is disconcerting. At times, however, the snow turns to a freezing rain and a hard crust forms through which they cannot escape. But it's an ill storm of that kind which Br'er Fox cannot turn to his own good account.

Almost the entire business of the woods is a struggle to take life or to preserve it, and the recording snow makes note of each incident with broad impartiality. One comes frequently upon the spot where a fox or a bobcat has caught his dinner and eaten it, save for a few scattered feathers or some fur. Or it may be that a weasel has captured a mouse and carried it off to his lair to be devoured at leisure.

Others of the woods people are occupied more peaceably. All about are the tracks of the mice. They come up out of one hole in the snow and go down through another a few feet distant. They have nests down there in the ground, or in the hollow of a tree. The red squirrels are equally omnipresent. Chipmunks have long since begun their hibernation, but the red squirrel is out in the coldest weather, barring storms, running about from tree to tree, intent upon his quest for food, and finding it often in the seeds of pine and spruce cones. The remains of his feasts are found in little, scattered clumps upon the snow. But the red squirrel is not limited to what he can find on the branches of the trees. He flirts his tail a few times, jabbars some insulting epithet—he first looks about to be sure that nothing is near to take offence—then disappears with a dive into the snow. His reappearance may be instantaneous—that epithet is on his mind and someone may have heard—or it may be after half a minute and at a distance of a dozen feet. When he comes up, he will eat his prize where he is or run with it to a nearby tree.

When one first comes upon a hedgehog working, he is certain to think that he has found something. Mr. Hedgehog is a very portly gentleman. His legs are very short, and he has that well-developed middle which is guardedly termed a "corporation." In snow he is at a disadvantage. Nevertheless, he ploughs resolutely through it, leaving behind a broad, deep furrow, in the bottom of which are his footprints, almost like the diminutive impressions of a person's hands. His paths run in all directions from his den, which is made under a ledge of rocks or in the base of a hollow tree. Wherever one strikes them, he will not have to follow far to headquarters, and turning the other way, he may often easily trace the Alderman himself to some tree which he is eating clean of bark.

Of all interesting things in the winter woods, a deer yard is one of the most absorbing. Perhaps this is because it is on such a large scale and gives so much evidence of something going on. When the snow is not too deep, the deer wander far afield, browsing on small twigs and scratching through the snow for forage. But when the snow piles higher and higher, giving no support for their delicate feet, and the cruel cold of January settles down, the winter of their discontent begins. There is no real yard, as commonly believed, but the deer herd together in some protected locality, which becomes lined with their tracks. Their food is of the scantiest and they frequently starve or freeze. It is a pitiful story, this tragic tale of the deep snow, ending in well-worn fox tracks, which converge upon something beneath a thick spruce, where it last sought refuge from the searching cold.

After the snows of late fall, some day when the mercury has suddenly tumbled down with ominous warning, you may run across the track of a bear on his house-hunting. All summer he



Winter brings hardships for the deer, whose small feet sink deep in the snow, often holding them prisoners



Old Alderman hedgehog may often be caught at his bark meal by following the furrow that he leaves



The fat, slow hedgehog, plodding through the snow, leaves track enough to be made by a bear

(Continued on page 56)

The Case for Indirect Heating

PROPER HEATING AND VENTILATION ACCOMPLISHED BY WARMING A CONTINUOUSLY FRESH SUPPLY OF AIR—HOW THE FURNACE SUCCEEDS AND WHAT RADIATORS CAN DO

BY A MEMBER OF THE SOCIETY OF HEATING & VENTILATING ENGINEERS

Diagrams by the Author

EDITOR'S NOTE.—"What heating system shall I use?" is the constant query of the home-builder. To assist in solving his difficulty, *HOUSE & GARDEN* has had experts in heating engineering present the advantages of their own favorite types of apparatus. For the first time the whole case of the best heating method will be presented to the public as a jury. The last article was on hot-air; its predecessors were on steam and hot water. This is the final article in the series.

INDIRECT heating, like indirect lighting, represents an increase of cost over direct methods proportional to the decrease in intensity and the extent of diffusion; and, as the latter is a justifiable expense in the conservation of the optic nerves, so is the former in the preservation of sound lungs and their concomitants.

The hygienic necessity of fresh air and the esthetic demand for freedom in the exercise of taste in decoration, require that as large a proportion as possible of all heating apparatus space be placed outside the living rooms and that the means of contributing heat shall be invisible and effective.

No universal rule is possible in the premises, for what is "one man's meat is another man's poison," and one set of scientific opinions or heating and ventilating platitudes, will appeal to the common sense of one individual and fall flat in the case of another.

Until recently, considerations of hygiene alone have been sufficient to declare in favor of indirect heating, but indirect heating by the ordinary methods is not the complete panacea for the ills of bad air.

Recent discoveries point to the fact that keeping the air in motion is of greater moment than the introduction of large volumes of outdoor air, and the aeration of the skin is of even greater importance than the right (theoretically) chemical composition of the air for breathing.

Still one is by habit of thought strongly inclined to the established ethics of fresh air. In one particular, at least, suggested by the growing custom of smoking in most any of the rooms of the house, considerable fresh air is necessary to relieve the house dweller of the nausea of a second-hand smoke.

On the side of esthetics there is no question but indirect heating is the only solution.

This method of heating, dependent as it is upon the introduction of heat by the vehicle of air, absolutely relies for success upon some means to secure a constant flow of warm air into the rooms.

The open fireplace which with the time-honored legends surrounding its history, without which there could be no Santa Claus, is still the central feature of decorative art in the home, and is at the same time one of the best means of assuring the success of indirect heating. But as to the room in which there is no fire-

place, some means of relieving the room of its contents of air must be provided in order that the flow of air into that room, charged with the necessary heat, shall be positive and constant. Ventilation (a much abused word), or more accurately a means of exhaust, is the usual and uncertain solution. A flue, or pipe called a flue, leading from the room to the outer air above the

roof, if it is not too small, if it is not too crooked, if it is properly installed, will sometimes solve the difficulty—and sometimes it won't.

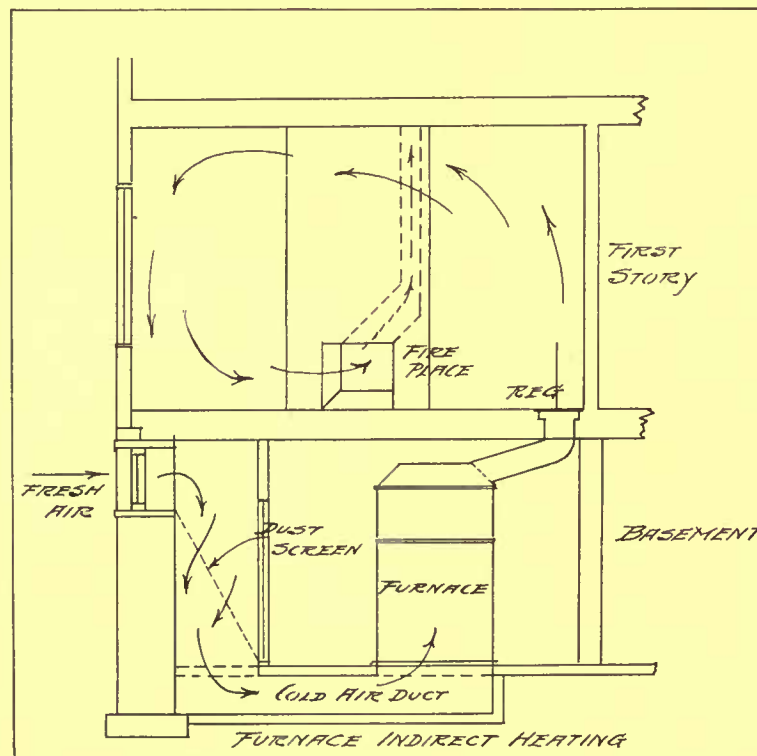
There are three conditions or characteristics of air in a flue—(a) when the outdoor air is sufficiently colder than the air in the house it flows upward; (b) when temperatures indoors and outdoors nearly coincide an equilibrium is established and stagnation of the air in the flue results; (c) when another flue in another part of the house for any or all of a dozen reasons has a stronger draught than the flue we are considering has a down draught, and like Artemas Ward's ditch (high at the wrong end) the indirect system of heating will fail so far as that room is concerned.

It is seldom realized to what an extent air leakage into or out of a room takes place; but through walls of all kinds of material as well as around windows and doors a consid-

erable passage of air is constantly taking place, with but very slight difference of pressure indoors and out: how else is it possible that so many houses without a single fireplace or vent flue are warmed at all by means of hot-air furnaces.

The one way to render indirect heating in the house successful is to have recourse to that modern agent which is now as familiar to us as was the wooden plow to the Egyptians, viz., electricity. The electric fan in the main air supply duct, running at a trifling expense and exerting just enough pressure to make a delivery of air through pipes, ducts and flues to all the rooms of the house simultaneously is the practical solution.

A point to be considered in this connection is that in indirect heating the diffusion of the air throughout the house renders it highly important that all bath and toilet rooms should be heated, and by the direct method (radiators); that such rooms should be connected to flues leading to the outer air, so that the passage of air through or around the doors of such rooms shall be inward and not outward to other parts of the house, as would be the



Indirect heating should provide an exit as well as an entrance for the air. The arrows show the circulation of the air in a typical system

case if such rooms were heated by warm air through registers.

Any of the three types of heating apparatus, steam, hot-water or hot-air, will serve the end of indirect heating; success being dependent upon the ability of the engineer to realize the inherent disabilities of each and to design the apparatus along lines which will favor such disabilities and give advantage to the plan of the strong points in each.

Whichever type of apparatus is selected the expense for fuel in indirect heating remains about the same. The efficiency of the best examples of the different types of heaters will vary but little, and considerations of durability and first cost are the principal ones. There are some points of difference between steam or hot-water and furnace heating that are worth considering.

In the former the radiators or source of heat may be placed near the registers and losses by radiation from long warm air pipes avoided, also the delivery of heat through short pipes connecting the indirect radiators with the registers is more to be depended upon than in the case of the hot-air furnace centrally located in the cellar with pipes of greatly varying length and some of the registers necessarily quite remote from the source of heat, viz., the furnace.

As previously noted, toilet and bathrooms should be heated by direct radiators; likewise pantries, back halls, kitchens (when a gas range is the type used) and many rooms not occupied by any number of hours consecutively by persons physically inactive, can with considerable economy in fuel be heated by direct radiation.

In short, the heating of the entire house by the indirect method is from any consideration unnecessary and will not be as satisfactory as the composite of direct and indirect as indicated.

The cause of failure in heating apparatus, in almost every case, arises from the the same misconceptions on the part of the house-builder as result in the production of an architectural blot when the architect's services are "economized" and the carpenter who takes the contract designs (?) the house.

A house built along the lines of stock sizes of lumber and window frames may be habitable, but if competition among the heating contractors is to decide the selection of heating apparatus it is almost a certainty that the acceptance of the lowest bid will result in a condition which will render the house uninhabitable.

The design of the heating apparatus should be dissociated from the scramble for the heating contract, and this can only be accomplished by the selection an engineer *per se*: one who has his professional reputation at stake only.

In indirect heating, the introduction of outdoor air through the cold and warm air pipes entails the entrance of dust from the street, unless special provision is made for the filtration of the air through screens of cheesecloth or deflecting the air currents so as to promote the deposit of dust in a chamber before the air is allowed to enter the ducts located in the basement.

Elaborate mechanisms called air-washers would hardly come

within the investment scope of the average house, but simple inexpensive devices will prove very effective and require but a few minutes of the engineer's time in the planning.

The importance of removing the dust from the air is at once apparent to anyone who has noted the results of medical investigation of disease germs.

Humidity of the air is next in importance to dust removal, and here again the simplicity of method that would be in keeping with the running expense of the average house is to be sought. Whatever expedient may be resorted to in this connection, no receptacle containing water for evaporation should go longer than forty-eight hours without a thorough cleaning; this is hygienically of greater importance than fresh water with which to make the tea.

In mechanical detail, as to that part of the indirect heating apparatus above the basement, it is important for the house builder to reach an early decision to adopt it in order that his architect may, while the plans are still in embryo, provide spaces for the proper heating flues, with all registers in the walls and none in the floors where they become receptacles for dust which will be desiccated by heat and menace the ol-factories.

Should the term indirect heating here used lack definition in the mind of the lay reader, a word along this line may not be amiss in closing. The two processes of Nature by which heat is dispensed from a heated body are convection and radiation, the former signifying the absorption of heat by air brought into direct contact with a heated body and the latter the communication of heat from a heated body or substance to another by means of invisible rays which do not affect the temperature of the air through which they pass.

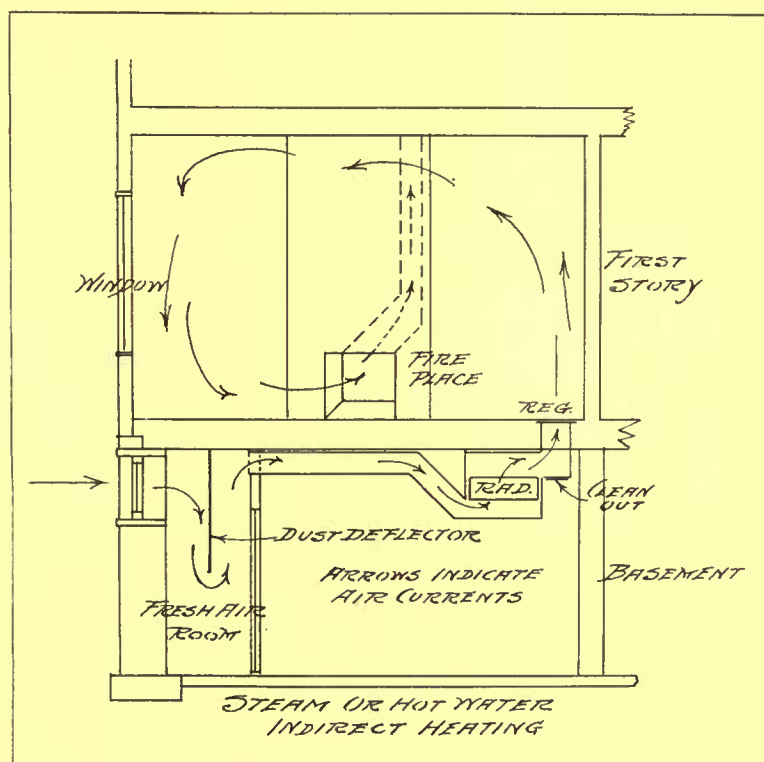
Indirect heating is accomplished by the exclusive means of convection or the medium of air brought into contact with heated surfaces (either radiators or furnaces placed

in the basement). It is one of the best methods known.

A radiator, stove or fireplace in an inhabited room constitutes the means of direct heating, although in case of the former two, both convection and radiation obtain.

The points noted might be amplified by reference to the interesting facts that the open fire heats almost exclusively by radiation, while a stove burning freely heats by radiation about 90 per cent. and by convection 10 per cent. A radiator at about 170° Fahrenheit heats by radiation about 45 per cent. and by convection 55 per cent.

The laws governing light and radiant heat are the same: the intensity decreases as the square of the distance from the source increases. With these laws of heating engineering proved and accepted it will be readily seen that the heating question is not a matter of guesswork or experiment, and the engineer previous to installing a system can compute its needs and make provision for them. The materials considered are all of constant efficiency, so there is no reason why the indirect system should not, if installed by competent engineers, meet the heating problem in an ideal manner.



Where steam or hot-water radiators are used in indirect heating they may be placed as near the registers as desired and thus secure uniform temperatures

Forehandedness in the Vegetable Garden

THE REWARDS OF AN EARLY START IN THE VEGETABLE GARDEN PLANTING—WHAT ONE MAY DO TO GET EARLIER CROPS, BETTER PRODUCTS AND MORE OF THEM

BY F. F. ROCKWELL

Photographs by E. R. Rollins

IF there is one factor that makes for successful gardening overlooked more often than all others, it is getting things done promptly on time.

If you are making a path, or painting the barn, or constructing a tennis court, what you do not do to-day can be done to-morrow. Not so with the garden's operations. What should be done to-day and isn't, is lost—and only a part, sometimes a very small part, is found by attempting to do the same thing later.

The two most general causes for getting behind with the garden are lack of working ahead and attempting too much. Only great caution and some experience can obviate the latter. The former can be overcome with accurate information—and some gumption. The benefits of getting the first spring stuff along early are too patent to need emphasis. Do you want to begin collecting profits from the investment of time and money put into your garden six weeks sooner than you did last year? Do you want to have fresh beets, and early cabbage, and sumptuous cauliflowers days ahead of your routine working neighbor? Start things now!

Nor will extra early crops be your only reward. In many cases it will be possible for you to get a second crop, where under the old system you got only one. Your transplanted beets, for instance, will be out of the way in time for celery, and your cabbage and cauliflower for later sowings of beets and carrots for a winter's supply. Not only this, but the long season crops, such as potatoes, corn and pole beans, will do very much better if started early, especially in dry seasons, such as we seem to be pretty sure of getting every summer now.

The number of vegetables which can be hustled along several weeks ahead of the time one ordinarily sees them ready is much greater than generally supposed. We grow thousands of vegetable plants to sell every spring, and outside of cabbage, lettuce, tomatoes and celery there is practically no demand, in spite of the fact that just as great advantages are to be gained from forcing beets, cauliflower, corn, cucumbers, melons, onions, squash and several others, including the humble potato. A complete list, with the particular methods of handling each, is given at the end of this article.

To get plants as large and nearly matured as is practical before setting them out in the garden, it is, of course, necessary to start them several weeks before the frost has left the ground. For this purpose the market gardener makes use of his forcing

house, but a suitable substitute for the home gardener is to be found in the use of the hotbed and coldframe.

I want to say emphatically that there is a great deal of misconception of the amount of knowledge and care required to operate a hotbed, and the cost of getting one. It is no more difficult than a score of other things that one has to do in connection with gardening—except, perhaps, that it must be done more regularly, as far as the item of giving air to the plants is concerned. If this is attended to, there is no reason why the beginner should not achieve success with his first attempt.

The hotbed is simply a bottomless box, usually six feet wide, and approximately thirty inches deep at back and twenty-four inches at the front, which gives the glass "sash" used for covering it a pitch of six inches. The length depends, of course, upon the number of sash to be used. These are 6 x 3 feet, so that dimension can be easily figured out. The material need not be expensive; any fairly straight, even edged boards will do. It should be placed, of course, in the warmest, most sheltered location available, facing south.

The heating material, naturally, is a matter of vital importance. It is supplied by fermenting manure. Horse manure is the best, and it should be obtained in a fairly fresh state and mixed with about a third its bulk of leaves or short straw, and forked over several times to get it into a thorough and even state of fermentation. It is put in to the depth of about twelve inches, and well trodden down. Over this put four to six inches of good garden loam.

If you have no regular hotbed frame, and yet want to make use of this method this spring, more manure will be required. It must be spread in a flat heap on the frozen ground, nine feet wide, eighteen inches deep and eighteen inches beyond either end of

the frame, which is set directly on the manure and should be twelve inches high at the front and eighteen at back. A cord of manure will make a base for three 3 x 6 sash—enough room in which to start everything for a very substantial garden—and the manure, after the heat is spent, is as good as ever for fertilizing purposes.

A cord of manure, delivered, should cost \$3 to \$5, and you need it for your garden anyway. The frame would require

30 ft. 12" boards
15 ft. 6" "
15 ft. 1 x 1/2 battens
25 ft. 2 x 4 scantling



By setting the plants out of doors during the day and later night and day, they will become hardy enough to transplant

and you could build it for \$2 to \$3. The sashes, glazed, would cost \$2.50 to \$3 each—a total of \$7.50 to \$9. Frame and sash will last for years. It's worth looking into, isn't it?

The seeds are sown either in flats or directly in the soil of the hotbed or coldframe—which is, of course, made as fine as possible. The former method, however, offers distinct advantages and is to be recommended. In the first place, it is possible to get all the conditions of soil, drainage, depth and thickness of planting, etc., much more accurately with flats than by sowing directly in the soil. The flats are easier to transplant from. And more important still, the plants can be moved about, rearranged and moved to coldframes, or outside to be hardened off, according to their development, and some will come along much faster than others. With plants sown directly in the soil, one must give them all pretty much the same treatment.

The matter of the preparation of the ideal soil for starting seeds, a new method of watering them, etc., are given in detail in this month's Garden Department, and therefore I shall not take them up again here. But remember that the more care you take to get these details just right, the more certain your success will be.

There is sometimes danger, with the beginner, that after he has brought his plants to the transplanted stage, he may assume that they are practically done with, and become careless in his attention to their wants, the most important of which is ventilation. To let up in your vigilance at this time may result in the loss of all the work you've done.

In the matter of ventilation, for instance, air should be given always on bright days. It might easily happen that a cold cloudy March morning would clear off bright by eleven o'clock, and two or three hours of direct bright sunshine on your tightly closed frames would be a very bad, if not a fatal thing for your plants, as it would run the temperature so far above a hundred that the plants would suffer considerably. On very cold days the frames should be tilted up a little at one end (preferably the back) and on warmer days opened up more accordingly. Try to keep the temperature inside not over seventy to eighty degrees during the day-

time. For cabbage, lettuce, cauliflower, beets, and such "cold-blooded" plants, the sash should be stripped off altogether whenever the outside temperature allows anything over forty degrees.

The matter of watering, especially in the early spring, is likely to be overdone. Plants at this season of the year, particularly

very small plants, do not need much water. As suggested elsewhere, in connection with watering seed boxes, when watering is done it should be done thoroughly—never a little sprinkle—and then withheld entirely until a dry condition of soil is indicated by the surface, which becomes lighter in color and powdery.

As the plants fill the flats and crowd each other, and time for setting them in the garden approaches, they should be hardened off. This is done by leaving them without any protection, at first during the day and then both night and day. If your frames are needed for other plants (say tomatoes, peppers, egg-plants, etc., coming along) set the early plants outside in a sheltered spot, where they can be covered with old bags, curtains, shirts or anything similar, in case a very cold night comes along.

If a sudden frosty night does catch your plants, and you find them all stiff and white in the morning, don't throw them away. Water them—drench them, with ice-cold water. Then cover them up, or put them in a shady corner where the sunshine can't strike them. They will probably come out of it all right. The cabbages illustrated on page 36 had been twice snowed under, the second time with nearly three inches, and the only injury done, them was that some were bent over.

Cabbage, cauliflower, brussels sprouts, lettuce, and beets are all handled in the same way, as described above. Tomato, okra, egg-plant, pepper,

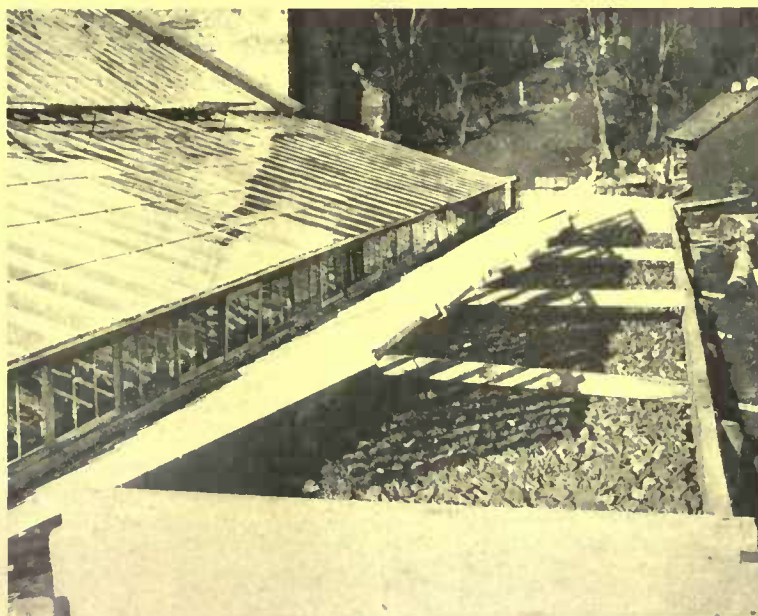
in much the same way, except that they need more heat all the way through, and for best results should be put farther apart than the others, or if possible, in pots, being transplanted in either case, a second time.

Celery seed is very fine, and very slow to start. Soak in tepid water for twenty-four hours before sowing, and do not sow too thickly. Transplant 50 to 100 to a 13 x 19 inch flat, and grow cool all

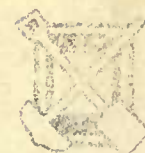
(Continued on page 57)



Tomatoes which were started in the hotbeds and shifted later to pots were in fruit by the time that spring came



On warm days open the sash wide; even on very cold days they should be tilted up a little



A Skirmish for a Garden

THE EXPERIENCES OF A MAN WHO WAS TIRED OF A FLAT AND WANTED A FEW GROWING THINGS—HOW HE MADE FLOWERS COME WHERE THERE WAS NOTHING BUT WEEDS BEFORE

BY A. A. FARRINGTON

WE lived in a flat, four stories up, with invigorating air; and grass—a patch ten by thirty—forty feet below our elevated station in life. A mighty poor chance to grow things!

The house across the way became vacant. We moved into it the tenth day of June.

What a prospect! Grass that we could actually step on, twenty by fifty along the side of the house and fifty by forty back of the house, with a luxuriant growth of dandelions two feet high.

Off came our coats, up went our trousers' legs and on the old shoes.

We got a lawn mower, a rake, a spade, a hoe, a grass-cutter and wheelbarrow—and blisters and a sore back. The lawn mower would run over, but could not cut through the dense forest of dandelion stems. We mowed with a scythe; then the lawn mower became possible.

Three wagon loads of this inspiring plant and general rubbish were hauled from the little patch, and a mighty sigh of relief escaped us as we stood, the conquering heroes of the first skirmish with a garden.

We removed the sod from a strip three feet wide around the edge of the back yard enclosed with a four-foot board fence.

Hurrah! Earth, real earth! And nightly dreams of a beautiful lawn bordered with flowers and vegetables, butterflies and bees, and birds, and raspberries, big red ones, were ours. Vegetables to gather ourselves, from our own garden, grown between the ornamental patches of an Aladdin's wealth of flowers, appeared in our fancy.

A spade, and the first thrust reached the rock at three inches depth. Then came a long pause, a thoughtful wrinkling of the brow, a dull sickening realization that we were not Chinamen and consequently could not grow flowers and vegetables from rocks. Just a mere covering of thick, terribly thick, pasty red clay, and that only three inches deep, was over a foundation of broken rock.

We adjourned to the front of the house, a lattice-work underpinning three feet high to the porch floor, built to hide the uncovered rocks and rested on a solid rock foundation.

The petals of the dream flowers floated off into the thin air of despondency, and the vegetables lost their crispy freshness in the ring of the spade against the adamant beneath our feet.

We acquired a scowl, a Napoleonic determination to conquer

that clay and rock, a hope born of the very desperation inspired by the obstacles confronting us.

We bought boards ten inches wide, laid them on edge along the front and side of the porch, making a bottomless box eight inches wide and ten inches deep. This we filled with street sweepings, planted rose bushes and nasturtiums, some climbing or, rather, hanging vines along the edge of the box; and that we might have some foliage, set in geranium plants to lend a touch of green while we waited for the nasturtiums to grow, crowning the whole with the self-satisfied smile of the conqueror.

Our friends flattered our ingenuity. They said it was very simple and very ingenious, but we could not expect anything

from our efforts this year. It would be next year before we could possibly hope for any results. It was so late in the season, et cetera, et cetera.

But the geraniums were really green, and the rose bushes were really there, although they were leafless, and the nasturtium seeds were really in the ground. We could really touch real earth, and the dandelion stubble looked something like genuine grass; our feet could touch it, and we could smile a little anyway, so we were a little bit happy even if our good friends could not enter fully into our happiness. Perhaps they had not been living in a flat 40 feet above the surface of the earth. But how could we blame good friends for doubting our success when even the kittens a year and a half old were so frightened at the first contact of their feet with real grass they ran to the attic and stayed there for three days, not daring to venture again into the mysteries of this new world.

In August our table was daily beautified with nasturtiums freshly picked, and pansies, and roses—real roses, Richmond's and American Beauties from our very own bushes. And on the twenty-fifth day of October we picked the last beautiful buds and presented them to our doubting friends.

We had bachelor buttons, too, and ferns, and morning glories; and a beautiful blue flower appeared on our hanging vine. We didn't know the name of it and asked the florist who sold it to us. He said he never knew a blossom to come on that kind of vine before. And our geraniums bloomed—beautiful large clusters of red blossoms. Then there were purple columbines, and a blue

(Continued on page 58)



There is a bed of nasturtiums that bloomed the first year and the promise of a green vine-covering beside the house



An attractive Eighteenth Century design that is more decorative than serviceable



The stern old tiger with the heavy ring in his mouth is one of the oldest types



Wrought iron affords a large field for good workmanship in knockers old and new



Knockers of the flat kind are in greater favor with most people as being less obtrusive



This familiar kind is obtainable in polished brass in clever copies of the old work

A PAGE OF DOOR KNOCKERS

Photographs by

Mary H. Northend



A certain distinctive air about this modern knocker suggests a long history



The eagle with the suspended door ring appeared soon after the Revolution



A considerably different knocker brought over from Wales about 1800



The situation of the house upon the top of a moderate terrace makes the selection of a portico entrance with simple columns a very happy one. The pillar proportions are well chosen in relation to the house dimensions

THE HOME OF DR. E. R. LAMPSON, HARTFORD, CONN.

A. Raymond Ellis, architect



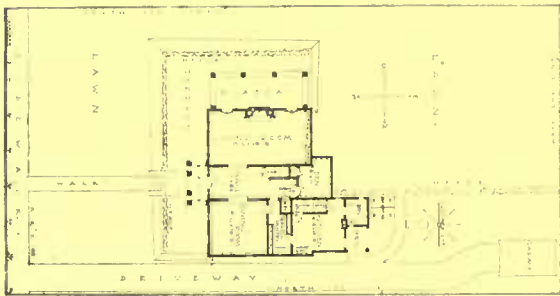
Both porch and entrance are paved with brick chosen for its possibilities of color and texture



The stairway and its landing were patterned after Colonial work. The door here opens onto a small balcony



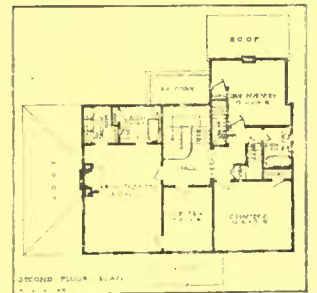
The mantel with its simple paneling is a reproduction of an old one. The French doors at either side of it open out on the piazza and in summer make it the living-room annex



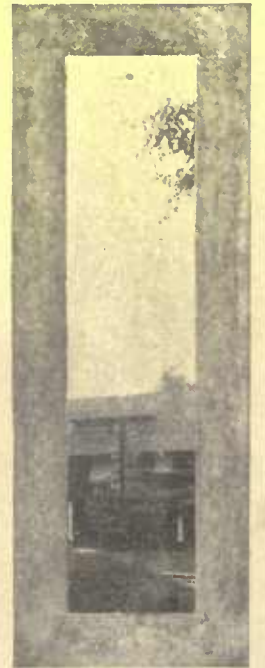
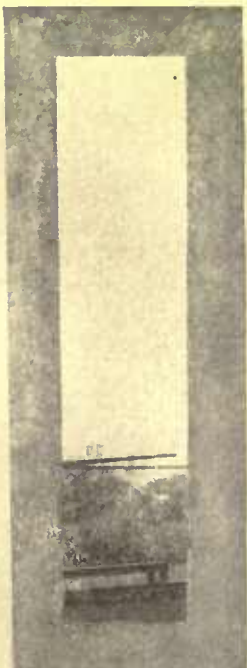
Opening on the kitchen porch is a window for filling the refrigerator from the outside

THE HOME OF DR. E. R. LAMPSON HARTFORD, CONNECTICUT

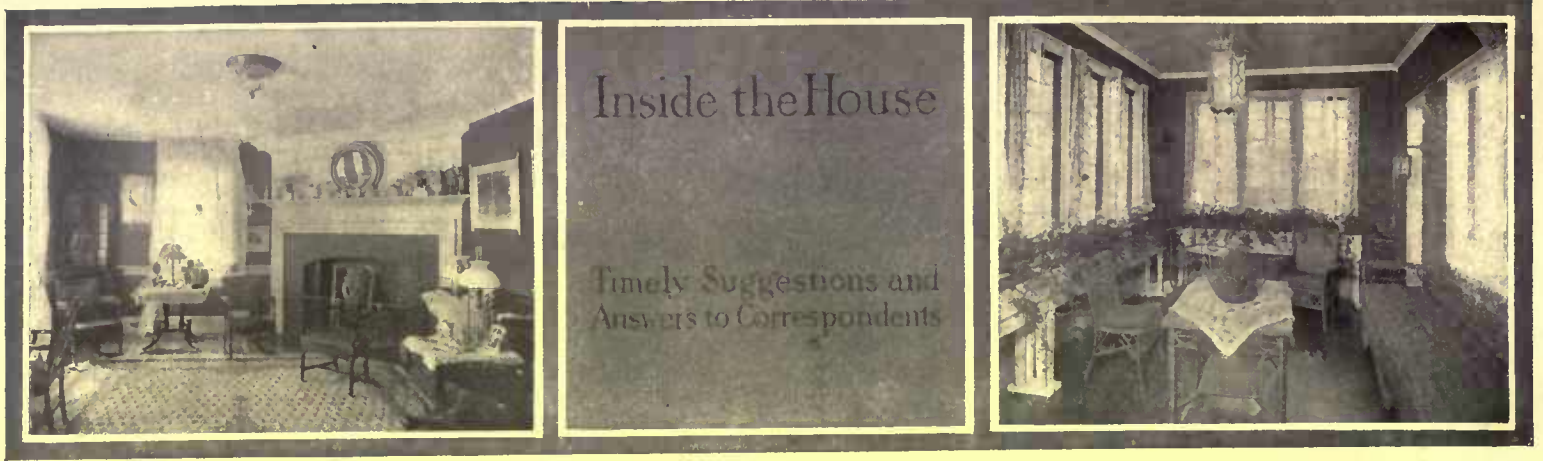
A. Raymond Ellis, architect



At the head of the stair a window lights the hall



A small balcony much in demand when outdoor seclusion is required is built over the roof of the den. The decorative window contains a door opening out from the stair landing



The Editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope

Pewter

WHETHER a genuine antique, a fake imitation or a frankly modern production, a piece of pewter ware is almost certain to have good lines, and will make an effective bit of decoration if used in the proper place and not mixed indiscriminately with brass or silver.

The opportunities for collectors of really old pewter are of course few and far between, in this country as well as abroad, and most people who buy a few pieces for decorative purposes must be content with those of distinctly modern make. The use of this ware in place of silver, which was too much of a luxury for the struggling colonists, extended over a period of almost two hundred years, the manufacture of pewter articles for household use practically ending in this country with the beginning of the nineteenth century. So thoroughly have the attractions of these old pieces been appreciated by collectors that there is little to be bought now.

A round of the so-called antique shops reveals only a few pieces, of such doubtful antiquity that one is immediately reminded of tales about manufactured worm holes and made-to-order stains. They are really too black and ancient looking to be genuine. A certain amount of pewter is still manufactured. Some of it is unmistakably new in appearance, with no pretense at being anything but modern, while other pieces are made from old moulds, and show clever imitations of the marks of famous makers which doubtless tend to deceive a more or less unsuspecting public.

In either case, though not as carefully made, and therefore not so perfect as the antique pieces, they nevertheless preserve the severely plain lines that formed the principal charm of this ware. Among the productions of the modern pewter manufacturers are the ale mugs with glass bottoms, small editions of the old tankards, that are decidedly commercial in appearance, though of attractive shape; and plates, tureens, hot-water dishes, salt cellars, pepper pots, spoons, and moulds in various shapes, some of them quite elaborate.

Opportunities of picking up quaint pieces, even of modern make, are much better abroad than in this country, and the collection shown in the illustration was acquired mainly in France and Belgium. The specimens shown in the shops here are high in price, considering the uncertainty of their age, or rather the certainty of their youth. Small plates are \$2.00 to \$4.00 each, and spoons from \$2.00 up, while tankards and larger pieces are still more expensive proportionately. However, there is always the fact that stirs the enthusiastic collector to feverish action, the chance of obtaining a genuinely old piece. Such pieces not only have the maker's name stamped in the bottom, which may or may not be proof positive, but a more certain guarantee of their genuineness is that with scarcely an exception the marks of the hammer are visible in one place or another.

Whether to keep pewter highly polished or not is always a question for discussion, and although in one way the shining pieces

may seem rather more attractive, in another their dullness always holds out the possibility of being the dullness of age, and some persons consider the polishing of pewter an act hardly short of vandalism. The chances are that even the little pewter mug, that may not have had time to celebrate its first birthday would be allowed to go unpolished by the majority of owners.

Inlay as a Home Craft

INLAY, done with woods of different colors and varying grain, is usually thought of as a difficult art. In Germany, however, it is a home craft followed by women who, without special training, make beautiful gifts for their friends or decorate useful articles for themselves. The triangular tray, measuring ten and a quarter inches across, shown in our illustration, was made by a young German girl. A similar one could easily be made by an amateur with a slight knowledge of the use of tools.

A small jig-saw, screws, sandpaper and shellac, and a workbench of some sort furnished with hand screws or vise are needed for the work. The necessary material, pieces of veneer in mahogany, ebony, cherry and other woods, may be purchased of a dealer in veneers or from a cabinet maker. Less expensive woods are needed for backing.

It is best for the beginner to use only two contrasting veneers in one piece of inlay. Two articles can be made at the same time, thus utilizing all the veneer. In making trays similar to our illustrated one, mahogany and ebony are employed and a piece of each somewhat larger than the finished tray is procured in the veneer. The two pieces are glued together, but a piece of newspaper is first put between them, as otherwise they could not be separated later. They are then put into a press between two boards or fastened firmly and evenly between hand screws at a workbench, and left for several hours until perfectly dry. The next step is to cut out the pattern, previously traced on the wood from a design on paper. The simpler this design is the better, and a



Few are aware that pewter of frankly modern manufacture is nearly as good as that hunted for its antique value, and much more reasonable

purely decorative design is to be preferred to a naturalistic one. It is easiest to begin by drilling a small hole with an augur bit; then to insert the saw and saw out the pattern. Experimenting in the use of the saw with cheap wood as material should be a preliminary exercise. When the pattern is cut out the glue is softened and the pieces of wood separated. The problem now is the easy one of fitting the ebony pattern into the mahogany tray piece and vice versa, making two trays. A little glue fastens the pieces into their proper places. The edges are sawed into triangular shape. The inlay must then be backed with some wood that will not warp, though it need not necessarily be expensive. Maple is a suitable wood. The piece for backing is made larger than the veneer, and is glued to it. The pieces must be dried carefully, with equal pressure. If the amateur has not access to a press or a cabinetmaker's bench, a bookbinder or cabinetmaker must be engaged to carry out the drying and pressing processes. The moulding is next sawed out and fastened to the edge of the veneer on top of the backing. Screws put in from beneath serve to hold it to the backing. If desired the rim may be made flat without a moulding.

The finishing process is next and last in order, and on it depends much of the beauty of the trays. They are first sanded thoroughly and evenly with fine sandpaper. Then a coat of shellac is applied. They are then allowed to dry for twenty-four hours, when the sanding is repeated. Sanding and shellacing are repeated in this way three or four times. Then the wood is oiled, rubbed with a piece of dry cheesecloth, and the trays are completed.

Small tables can easily be furnished with inlaid tops by the amateur workman, the veneer top being placed above the table top that is already in place. An ordi-



Very few tools and no special training are necessary to do inlay work, and the results are most pleasing

nary little table, of oak or mahogany, can in this way be given a distinctive quality. Chessboards are other inlaid articles easily made by an amateur.

It is by no means impossible for the novice to introduce bits of mother-of-pearl, copper, or pewter into a piece of inlay, giving a rich and interesting color effect. In using metal, the veneer must be rubbed down until it is the thickness of the metal. A hole of about the size of the piece of metal is sawed in the wood. The bit of metal is then tried beneath the hole, which is sawed out gradually to the required size and shape. Inexpensive woods can be stained in different colors if a particular scheme is required, and many of the cheaper woods, such as whitewood, can be used in their natural color in small pieces. Charming little, decorative landscapes can be worked out in inlay, and used to decorate chairbacks, desks and settles that are bought in unfinished woods

and stained by the amateur craftsman. The use of inlay in this way, however, should be restrained. A touch of color, an interesting spot of wood or metal, gives distinction, but there is risk of over-ornamentation, in this as in other decorative arts.

Wistaria Stools and Some Old Coppers

THESE wistaria stools may serve a number of purposes. Primarily they are made for jardiniere stands, but they are most useful for porch or garden seats. The bottom support being a heavy rim, they do not sink into the ground as a chair, with its slender legs, does. Then, too, these stools are, if anything, improved by rain—quite an unusual distinction for anything in the furniture line. The dampness tightens and toughens the fibres of the wistaria so they are only improved by the accident of a wetting. They are of small size, the base about fourteen inches in diameter, the top twelve inches, and they stand about fifteen inches high and cost a dollar and a half apiece.

The jardinieres, shown in the same illustration, are rather out of the ordinary. The emigrants from Russia and Italy come to America with their household equipment, and finding the modern utensils used by Americans more to their liking, adopt them, discarding their time honored traditions and their old cooking vessels at the same time. Often they are entirely black with the smoke and use of many years, but if persistently polished (it will be better to take them to some factory equipped with burnishing wheels and brushes than to use one's own elbow grease upon them) they will become bright and shining. Most of these cooking vessels are of excellent proportions. They may be purchased for four or five dollars, according to the size and the rarity and desirability of the shape.



Small wistaria fibre stools are obtainable for a variety of uses. They are very durable and are even improved somewhat by hard usage



Garden Suggestions and Queries



Conducted by
F. F. ROCKWELL.

The Editor will be glad to answer subscribers' queries pertaining to individual problems connected with the gardens and grounds. When a direct personal reply is desired please inclose a self-addressed stamped envelope

February

The most important thing there is to be attended to this month is the starting of plants.

Of course you've all done it, but how many did you get, and were they nice and stocky and hardy, or a little inclined to grow up tall, as though looking around for something to lean on?

This subject may not seem as interesting as some other garden topics, but it is the basis of success with a great many vegetables, and any information concerning the details that will make results more certain is well worth every gardener's attention.

The importance of having good, strong growing seed, of course, comes first of all. No amount of attention to soil, temperature, and care will get good, robust plants from weak or old seed.

Another thing to remember is that our garden plants, both flowers and vegetables, come from all parts of the world, all sorts of climates, and while they have been to a great extent modified, they still retain inherent differences of character which must be recognized in attempting to grow them. You cannot expect the heat-loving egg-plant or musk melon to prosper under

the same conditions that will give cold-blooded lettuce or celery a rapid, crisp and tender growth. And just so, in starting seeds, conditions should be made favorable from the very beginning.

Temperature

A high degree of temperature is not required, but plenty of light is essential. Whether one is using greenhouse, frames or the kitchen or living-room window, if a temperature which during February will never go below forty degrees at night can be had, the greatest variety of plants can be started, because the more tender sorts, such as tomatoes, peppers and eggs, should not be sown until four to six weeks later, by which time a night temperature of fifteen to twenty degrees higher can easily be maintained. The night temperature for the early vegetables—cabbage, cauliflower, lettuce, beets, onions, etc.—should average between forty-five and fifty degrees, but one or two drops to forty degrees, if they are not long continued, will do no harm.

Soil

One of the greatest secrets in starting seedlings with certain success is to get the soil for the seed boxes porous and light

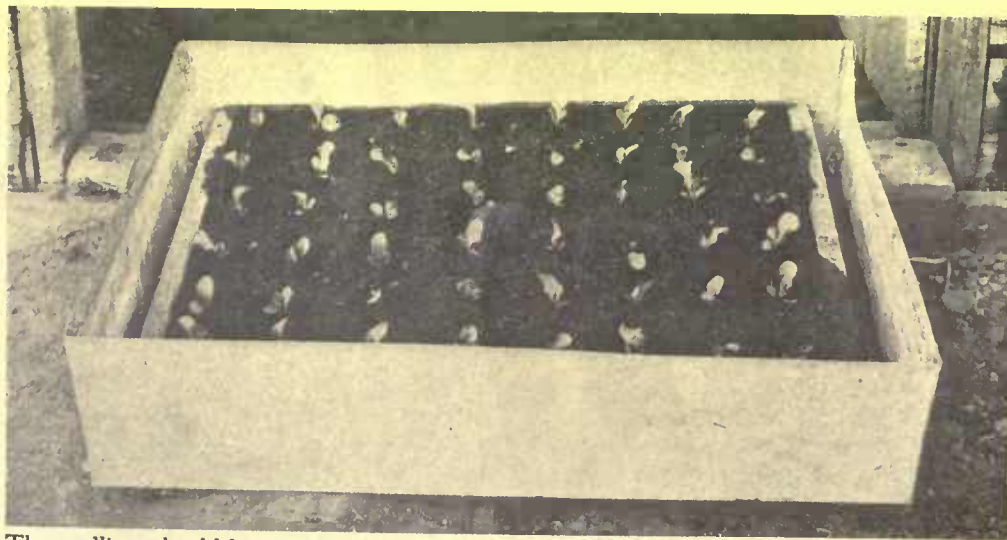
enough. I think it is in this particular more than in any other that the beginner is likely to fail. He is so anxious to get the neat little seed packets torn open and their contents into the seed box, that he can't take an hour or two—or half a day, if necessary—to prepare the soil properly for the most important stage of their growth—a good start. Too much water retained in the soil will cause the seeds or little seedlings to rot, and soil that has any tendency to pack will form a crust through which the tender sprouts cannot push up. In order to overcome these difficulties, sifted leaf-mold or cocoanut fibre, or chip dirt should be added to give it the needed lightness, and enough sand to make it fine and crumbly, so that it will not pack or cake. A soil half garden loam and half leaf-mold, with one-quarter to one-half sand added, will give you an ideal medium in which to let your little plants reach the first stage of development.

Sowing the Seed

The seed box should be about two inches deep, any convenient size, and have several small holes in the bottom to let any surplus water drain off readily.

Put into this half an inch or so of the rough screenings from the seed soil—which should be passed through an ash sieve to make it fine and mix it thoroughly—and then give this a thorough wetting. Then fill in with the prepared soil to within about half an inch of the top of the box, and wet this thoroughly also. (The idea of using all this water is to get a reserve supply of it, as the less we have to put on the surface, the better.) Then fill up nearly to the top with more of the same soil, level it off, and sow the seed thinly in rows two to three inches apart. A good way is to mark off lines with a sharp stick, about as big as a lead pencil, and sow in these. The seed should be barely covered, and the whole pressed down level with a piece of board or brick. After an hour or two the surface will be found to be evenly moist with the water soaked up from below.

For the next twenty-four to forty-eight hours the seed boxes may be given considerable heat, sixty to seventy degrees, especially under the boxes, though they



The seedlings should have a watering pan of this fashion made for them. The pan is filled with water, which is absorbed through the holes in the bottoms of the flats

should not be placed directly on any hot surface. Lettuce and cabbage will frequently sprout in two days; other seeds take from four to ten, even with artificial heat. Just the minute they begin to push through the soil they should have full light, as otherwise they will immediately get drawn and weak, and may be ruined in a single day. A pane of glass held in place just over the seed box, during the sprouting period, will do much to keep it from drying out.

Water should not be given again until the soil in the seed box becomes quite dry, which, if prepared as directed above, should not be until after the seeds are up. When it is required, it should be applied with a very fine rose spray, or better still, with a sub-irrigation tray like that illustrated on page 44.

Transplanting

For several weeks succeeding the sprouting of the seeds—and you can start several hundred in one common sized flat—keep them in the full light and give them all the air possible while maintaining the required temperature, which during the day should be ten to twenty degrees higher than at night. Let them grow slowly—they will be all the better for it. Water only on bright mornings, so that the foliage will always have a chance to dry off before night. If you take these two precautions, you should escape the dreaded “damping-off” fungus, which attacks the tender stems just at the soil level and destroys millions of seedlings yearly.

As soon as the second true leaves form, the seedlings will be ready for “pricking off” into other flats. These are prepared in much the same way, except that manure or bone meal is used to enrich the soil, and a layer of manure is placed for drainage in the bottom of the flats, which are usually three inches deep. The soil need not be as finely sifted as that for seeds. The little plants are put in about two inches apart each way, fifty being a good number for a 13 x 19 flat. They should be lifted carefully from the seed box, and set in to one-half to two-thirds their length. Hold the seedling between the right thumb and forefinger, make a hole with the forefinger of the left hand (or with a small sharpened stick) and drop it into place, firming it into position with the thumbs and forefingers of both hands.

After transplanting give a light watering with a fine spray, and keep the newly transplanted seedlings in the shade for a day or two, especially during the noon hours, if it is bright. They can then be moved to cooler quarters, such as a cold-frame, and the warmer spot used for the on-coming tomatoes, eggs, peppers, etc.

Buying and Handling Manure

The average home gardener pays altogether too little attention to the matter of enriching his soil—whether it is that of garden, flower beds or lawn. With the commercial grower nothing takes precedence over this: he knows as a matter of dollars and cents experience that he has

got to put plant-food, and lots of it, into his soil if he expects to get crops that will pay him for his labor. Attend to the purchasing of your manure early. Quite likely you can buy it and have it hauled cheaper now than later. It may be spread directly on the frozen ground, but a better way is to have it built up into a compact square heap, mixing with it anything you can find or get that will rot—old leaves, old sod, street sweepings, garbage—it's all like putting coin in the bank.

It used to be a very common practice to cover the lawn over each fall or spring with a heavy dressing of manure. I believe as good results are to be had, with a great deal more convenience and agreeableness, by using prepared sheep manure, or a mixture of chemicals at the rate of twenty-five pounds of nitrate of soda, twenty-five pounds of muriate of potash, and seventy-five of acid phosphate, or fine bone. This should be put on just as the grass starts in the spring.

How to Save Money on Your Flower Garden

I have often wondered why so many people—including thrifty housewives for whom plants do splendidly—wait until the day before Decoration Day before buying the plants, geraniums, heliotrope, petunias, daisies, or whatever they want. Why not go to the florist the end of this month, or during March, while his stock is complete and the plants are small, and get two or three dozen, for what you would pay for eight or twelve late. Often there is a corner of the hotbed or frame, or surely a nice sunny window, where they would be kept and enjoyed, and repotted to larger pots as they outgrow their present berths, as indicated by a white mass of roots enveloping the ball of earth within the pot.

A Garden on a Mountain Top

CONTRARY to the opinion of all the “old inhabitants” I have successfully carried on a market garden in the mountains for three years—altitude, 9,000



Hotbeds high up on a mountain proved successful enough to grow vegetables for market

feet. The first year I devoted almost wholly to experimenting. I planted some of nearly every variety of seed from all the catalogues, and kept accurate tab on the results. The second or third years I knew just what to do, and the results were astonishing—at least to the “croakers.” I now have about two acres and expect to increase to five next season. The whole thing has been intensely interesting as well as instructive. Peas do remarkably well, but I early learned to discard all smooth varieties, and settled down on first, American Wonder; second, Gradus; third, Nott's Excelsior. One and two give about equal results, both early and hardy, and fine flavor.

The enclosed view shows my hotbeds, Long Peak in background, altitude 14,274.



Notwithstanding the fact that on May first twelve inches of snow fell and the temperature ranged from 12° to 55°, the seedlings in the beds prospered



EDITORIAL



Fads in Building

ABOUT six months ago an enterprising builder, possibly influenced by the desire to embody some beauty and a little art in a practical structure, built a Gothic office building. That is, the ornamentation, detail and window design were after Gothic motifs. Almost immediately five or six of the mushroom crop of similar structures going up began to appear in the same dress. Where the first one showed restraint, careful selection of details and proportion, the buildings appearing later ran to a riot of carving, tracery, scroll work, quartrefoil windows and so forth. It is not our purpose to make criticism of the Gothic office building; that is outside the house and beyond the garden. There is, however, something to say on the psychology of imitation that is disclosed.

In a certain section of Massachusetts some experimenter in comparative areas felt that he had made a great discovery. This was that if he should build a house which approached a circle in ground outline he would gain in floor area in proportion to wall surface. The result of this brilliant idea was an octagonal house. History does not record what he said when he discovered that each additional angle necessitated waste at the corners in work and joinery; but he finished his structure and left it an architectural eyesore. But he got his revenge in the way his house was copied, so he was not alone in his discomfort. To-day one may find scattered through the state octagonal pill-box houses with octagonal wings; octagonal houses of every size and condition.

Not so different was the imitation which has left in some sections of our suburbs the melancholy remains of what is sometimes called the late Victorian type. Possibly some of us do not have to walk far from home to see rows of houses decorated with intricate sawed and turned grille work, cut-out moons and stars and little Turkish minarets. The wave of these grotesque styles has swept over sections of this country and left a haphazard flotsam and jetsam of fad building.

It is not so much American architecture that is at fault, but it is the peculiar compelling force of imitation that seems to make men follow the false lead of the first bizarre builder they see. We notice this same thing in modern dress. A new cloak is designed with some novelty of color, texture or cut, and presto, it is reduplicated by thousands. What is it that drives the whole country like sheep after the wether? It seems no other force than the tinkle of the bell of novelty. It is this that spread the bungalow so widely through the land until its simplicity and honesty were lost and every conceivable form of structure from summer-house to ten-story apartment were designed after it.

The remedy will not come from the evolution of an entirely new, absolutely different style. Such a thing would be apt to die from this reduplication. It is much better to be reactionary and still stay with the old traditions than seek an ideal type that has nothing but an air foundation and is built from the roof downward. Let some of us remain original in clinging to the established and the tried until the new can offer us a sane development with utility and beauty as twin considerations.

Some Architectural Dogmas

IT is strange that hand in hand with a voracious gobbling up of the bait of newness is a sleepy clinging to ancient tradition. Mr. R. A. Briggs in his recently imported "The Essentials of a Country Home" spends an introductory chapter on "fallacious legends." These he considers to be the senseless copying of old forms that have exhausted their usefulness and are simply repeated from year to year as a force of habit. One of these dogmas is the mirror over the mantle. We

here in America are less addicted to this peculiar obsession than Mr. Briggs's fellow-Englishmen are, but nevertheless many a house-owner still insists on the mirror over-mantel without knowing why or wherefore.

The mirror was originally not a decorative feature. It is that by-product of vanity that is now essential to regulate the costume and arrange the coiffure. It is to serve a useful purpose and is now a very unromantic article of the household machinery. For this it belongs in the dressing-room or the boudoir, but surely not over the mantelpiece. There is no reason why that location should be chosen. It cannot be that madame desires to admire herself standing before the fireplace, or to arrange her toilette in the living-room. It is relic of the Louis XVI time, according to Mr. Briggs, for with the style of that period mirrors were part of the decoration and were located as decorative units. To-day it is another matter. We need no Louis XVI ideas in the living-room that is not of period decoration. Besides, there are many more fitting and attractive substitutes for the glass.

The House and the Man

IT is a far cry back to the time when the man exchanged his cave for a rudimentary house. Probably the search for greater convenience led him to do it; at any rate there was little consideration of the esthetic. To-day it is different. We no longer are limited by desires to satisfy elementary wants; we have complex requirements of beauty and art and kindred needs of the esthetic side of our nature. The house is not merely a shelter from the rain and wind and the wild beasts, but a place of careful planning for our mental pleasure as well. Colors are chosen to delight us; we consider form and arrangement and relation of parts. The conflict of various decorative elements is to-day as much a reflection upon the man as in former times an undeveloped knowledge of handling the sword was. Indeed these ideas have become so important that there are now rival schools of interior decoration which arouse the same interest in the public that a schism in the Established Church did formerly.

Location geographically, site and merits are considered in choosing one's house and its trim, but very little is said about the man who is to live in it.

In Germany, where they proceed from the theory to the practice and evolve the principle and then apply it, they have something to say about the man.

The new idea is that the house is made to order for the occupant. His architects advise him and recommend according to his temperament. Colors he should be able to decide to fit his own taste, but the rest is made to fit him. For instance, the German designers can see no rhyme and reason for a twentieth-century man living in a seventeenth-century house, any more than that he should seek a first-century house. The conditions of the ages are so different that the appearance of a man to-day in a room of a former time is an anachronism and therefore inharmonious. To correct such things as this they are designing and decorating homes that shall be built upon the single idea of utility. They will be as beautiful as may be, but nothing except the useful will be there. To this end they have designed the furniture to fit the inmates and in proportion to human anatomy, not built after the articles produced long ago. Tradition, in so far as it denotes natural growth, is preserved, but all that is merely ornamental, and exists for decorative purposes only is swept away. Think what a blessing a house without dust-gathering bric-a-brac would be!

Whatever objections there may be to these theories one must grant them much soundness of reasoning in these points. We await with interest the outcome of the new German movement.

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Yet these tires which can't rim-cut—these over-size tires—now cost no more than other standard tires. That's why they outsell others.

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These two features together—No-Rim-Cut and oversize—under average conditions double the life of a tire. This judgment is based on 13 years of experience, with 800,000 Goodyear tires.

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Those figures, of course, are only approximate. One can't be exact on the cost of tire upkeep.

Proper care and inflation, roads, speed, loads, etc., all affect tire mileage.

But the figures are fair.

Certain it is that No-Rim-Cut tires save all the ruin of rim-cutting.

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These patented tires, when first brought out, cost one-fifth more than other standard tires.

Now they cost an equal price. Our multiplied output has cut the cost of production.

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No-Rim-Cut tires, 10 per cent. oversize, cost just the same as old-type clincher tires. The saving is entirely clear.

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Now note the judgment of users.

The demand for these tires has doubled over and over. It now exceeds the demand for any other type of tire.

Last year's sales on No-Rim-Cut tires exceeded the previous 12 years put together.

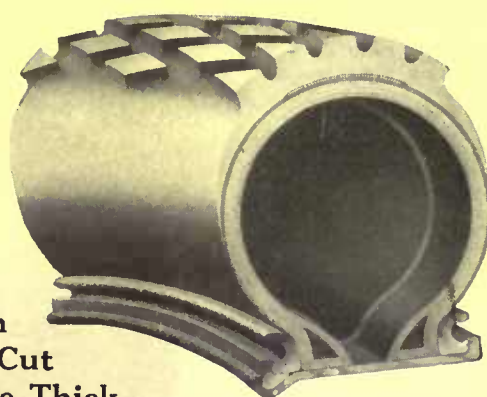
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A Colonial House and Its Garden (Continued from page 20)

end of the lawn running to the street (see extreme upper left-hand corner of the plan) is a seed bed, and here the garden experiments are carried on and the plants grown to suitable size for transplanting in the flower garden.

Both of these lawns are suitable for different purposes and are used in different moods. The small one is an outdoor living-room and suggests the pleasures of tea on a long summer afternoon. It offers pleasant little corners for drawing away in seclusion. The long one seems to call you out to play lawn bowls or offers you the opportunities of other summer games.

When you retrace your steps you find that the interior of the house does not disappoint you after a judgment of the high level of the exterior and the garden. There is a broad hall that welcomes you with its bright enamel contrasted against a colorful paper. The stair well is large and open and it seemed to me discloses the one appropriate place for a rubber plant. The living-room is given over to comfort; generously fitted with those most decorative of all furnishings, well filled bookcases, and furnished with only those antiques that are comfortable and inviting. This room is given the best outlook, and opens onto the porch and sun parlor that faces the flower garden. In the rear it overlooks the square lawn and garden. The dining-room is in white trim which, where it surrounds the fireplace, is delicately carved in choice detail. A bedroom above reveals the owner's appreciation of growing things, in an alcove with a bay-window opening off it and made to hold an attractive window garden. The interior, just as the exterior, is suggestive of the Colonial in its design and furnishings, but stops short of imitating the old where modern design and invention have seemed preferable, either because better fitted for life to-day or because in some things—heretical though this may sound—our modern artisans have better substitutes for the work of their predecessors.

The whole place, then, has this strongly to argue for it—it is a sane adaptation of the Colonial to a modern place. The initial choice of plan was an excellent one for the location and it was developed only so far as seemed practical. The house seems to be the descendant of the early settler, just as the man is. He did not deem it necessary to show his ancestry by wearing knee breeches or buckled boots and high crowned hat. Neither did he plan his house along lines of similar reasoning. In the garden he has put a touch of Colonial spirit and at the same time given an admirable variety and provided for the various tastes of a more cultured and more exacting civilization.



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EDWARD GILLETT, Box F, Southwick, Mass.

Japanese Stencils

(Continued from page 23)

The little stencil lamp-screen shown in the illustration was made by a Japanese, and like the window seems to require the skilled fingers of the Japanese to do such delicate work, but these may also be made to order by a Japanese workman.

There are innumerable ways of using these beautifully cut patterns, which I have not mentioned. Stencils of a uniform size and design which harmonize may be selected to form a frieze around an entire room. All stencils having the same motif may be selected, such as all peonies, all birds, all fish, all bamboo, all waves or all geometric designs; or two subjects, for instance, birds and flowers, or waves and fish, or a naturalistic and a conventional pattern may be alternated. There is an endless variety of ways in which these Japanese stencils may be used in the decorative scheme of a room. A screen may be made of them, a tea table may have one under the glass, in fact, one can introduce just as many stencils as one cares to use. However, it should be remembered that dignified restraint is better than over-elaboration, and it will be better to have a few well chosen stencils introduced into your decorative scheme than to have a surfeit of less beautiful patterns.

There are stencils of various size, about 10 ins. x 16 ins. being the most common size. Some square ones measure about 14 ins. x 14 ins., and the largest of the stencil patterns measure from 15 ins. x 25 ins. to perhaps 8 ins. x 36 ins. or thereabouts. The small 10 ins. x 16 ins. size is most easily procurable and costs from 50 cents to about \$2 or \$2.50 each. The large stencils of very handsome design cost from \$3 to \$8 or \$10, the price depending upon the condition of the stencil and the unusualness of the subject. One occasionally can get a pair of large stencils that are very desirable to use for a window treatment. Where one is able to secure a pair or sometimes, though more rarely, three, of a very handsome pattern, the price is usually considerably above that of a single stencil of the same size and design.

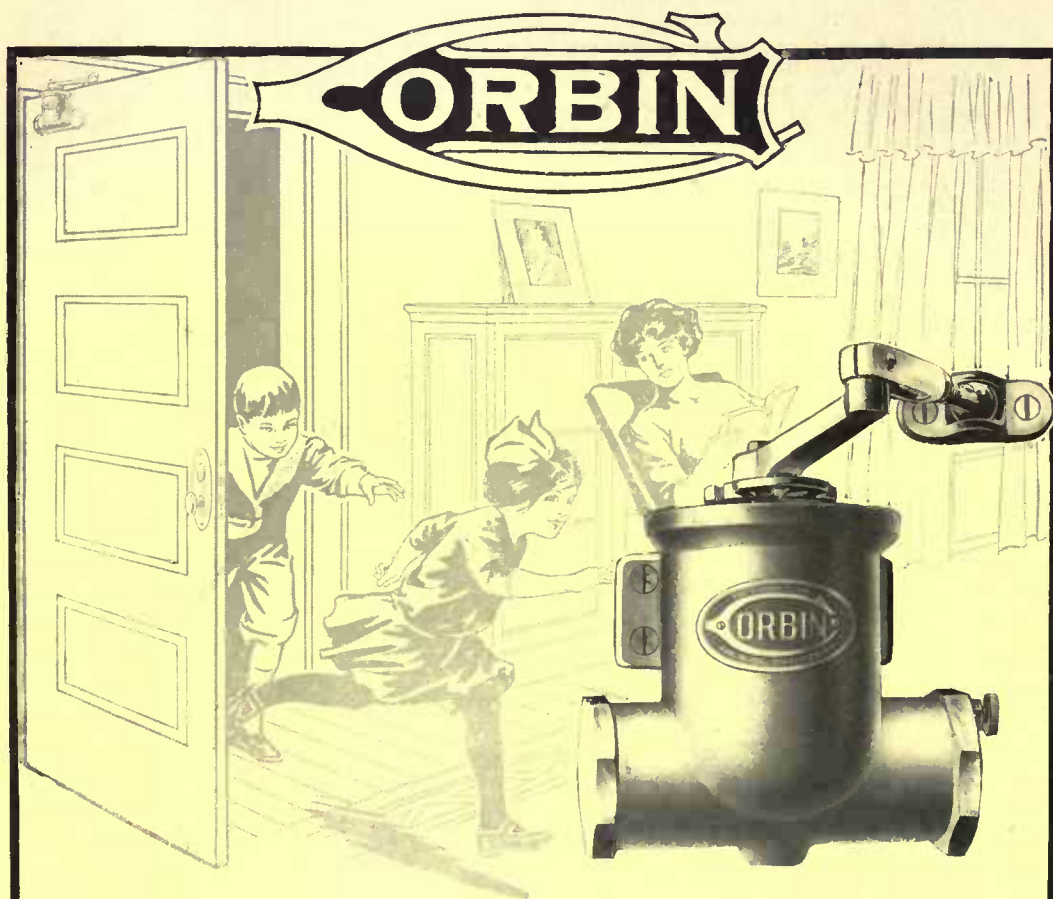


Reminiscences of a First Year Garden

(Continued from page 25)

were three feet high, but the Amateur Gardener cut them back ruthlessly to nine inches, although I tried to stay his hand. He said this would give a better growth close to the ground, and eventually produce an ideal hedge. The appearance of the hedge now quite justifies his severe use of the shears. The plants behaved beautifully—only ten or twelve refused to come to life.

After the hedge was planted the Amateur Gardener used his spare time for dig-



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ging flower-beds, while I sat on the wheelbarrow and cheered him on. The ground at the back of the house is so graded that a terrace, not much more than a foot high, divides the yard into two separate plots of about equal dimensions. The upper of these plots, that is, the one nearest the road, has on it four peach trees, which are happily placed in such a way as to form the four corners of a square. The symmetrical placing of these trees suggested to us the idea of making, on this little terrace, a garden having a formal arrangement of beds. The plan will show how we laid them out. It also shows a sun dial, which so far exists only in our minds. We're going to have it next year, though, and the only reason we didn't have it last summer was that we never thought of it until a few weeks ago.

After the Amateur Gardener's back had recovered a little, he dug three beds on the lower plot of ground—a long bed inside the line of the hedge, a little three-cornered bed where the path divides, and a bed extending across the back of the house. Then he made a long narrow bed on each side of the house, surveyed his blistered hands, "laid down the shovel and the hoe," so to speak, and went on strike for several days. The skeleton of our garden was complete.

Of course we realized that this first year we would have to depend mostly upon annuals, for we could not afford to make much of an outlay on our garden. We decided, however, to beg, borrow or steal whatever plants we could. We started off by stealing. Near us was the ruin of an old house which had been burned down. In the yard grew innumerable plants of the yellow day lily. We acquired two wheelbarrow loads of these plants, and with them filled the long bed at the side of the path. Back of the lilies we planted a row of dwarf sunflowers, so that there might be some bloom in the bed after the lilies were gone. The back bed in our little terrace garden we planted in rows, using, from front to back, portulaca, Drummond phlox, African daisies, annual larkspur and early cosmos. The side beds we planted in four o'clocks, and the two front beds in nasturtiums, with clumps of hollyhocks and cornflowers (plants we had begged from neighbors) at the end of the beds next the entrance to the garden. We also begged from a neighbor an old tin pan, full of little petunia seedlings which he had planted early in the spring. That pan measured at the most twelve inches in diameter, but was crowded full of the tiny plants. We set them out about a foot apart in the bed at the back of the house.

"They won't make much of a showing," said the Amateur Gardener, "but we can't afford any seed for this bed." We little realized what those petunias were going to do!

Another neighbor presented us with some golden glow, and this we put in the little triangular bed. The house is set quite high on its rough stone foundation.

so we felt that something tall should grow in the beds on each side. We decided on pink and white cosmos as an experiment. Also as an experiment, we planted clumps of castor-oil beans on each side of the front porch. We really need some kind of shrubbery there as a permanent feature, but as we couldn't afford to put in large shrubs and wanted an effect at once, we tried the castor-oil beans. The effect proved extremely satisfactory.

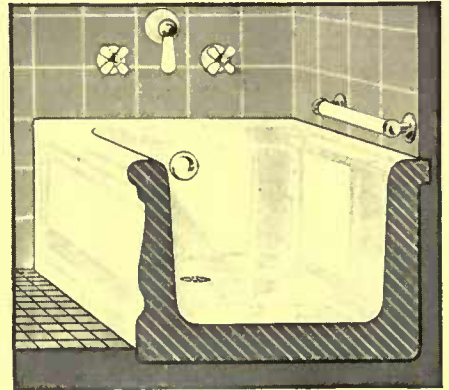
Now that our flower beds were filled, we took up the question of vines for the house. As a result of our deliberations we recklessly invested in three *Clematis paniculata* plants, and five climbing roses of various kinds, among which the crimson rambler was *not* numbered. (The Amateur Gardener doesn't like it.) We also procured some fine honeysuckle, by the simple process of going out into the woods and digging it up. These things were for the future. For present results we planted morning-glories all across the back of the house. Our cottage is of the type which fairly cries aloud for a garment of vines to bring out its picturesque qualities, and some day it's going to be smothered in wonderful climbing roses and clematis and honeysuckle. Until that day, however, we pin our faith to morning glories. We planted them *thick*—so there'd be a riot of them.

When there was no more to do to the beds but water them and wait for the plants to come up, the Amateur Gardener turned Amateur Mason and Carpenter, and started on the work he had been longing to get at ever since our garden plans were made. This was to make an entrance to the terrace garden, and a pergola gateway at the top of the steps which lead down from the road to our walk. As I have said, the lot lies several feet below the street level, and the terrace thus formed is covered with a growth of honeysuckle, grasses and wildflowers. It is a charming tangle of vegetation, and we decided not to replace it with lawn grass. On the terrace grow also several young trees, which partly screen us from the road, and give to our garden, as viewed by a passer-by, the additional charm of being seen in snatches, half hidden by trees. At the foot of this bank, on each side of the steps, which, by the way, are railroad ties set into the slope, the Amateur Gardener built a dry wall. He covered a great deal of surrounding country in his search for the stones of this wall. He would come home, perspiringly trundling the wheelbarrow, in which reposed a stone of back-breaking proportions, and, he assured me, unusual artistic qualities. I would have chosen one less artistic and a little nearer home, but no doubt my wall would not have been as attractive as his is. It looks like a crumbling old wall, instead of a brand-new one. The pergola entrance looks old too—old and quaint and a little Japanesque. The Amateur Gardener designed it, and made it himself from four cedar posts and two dozen bean poles. We planted a bed of

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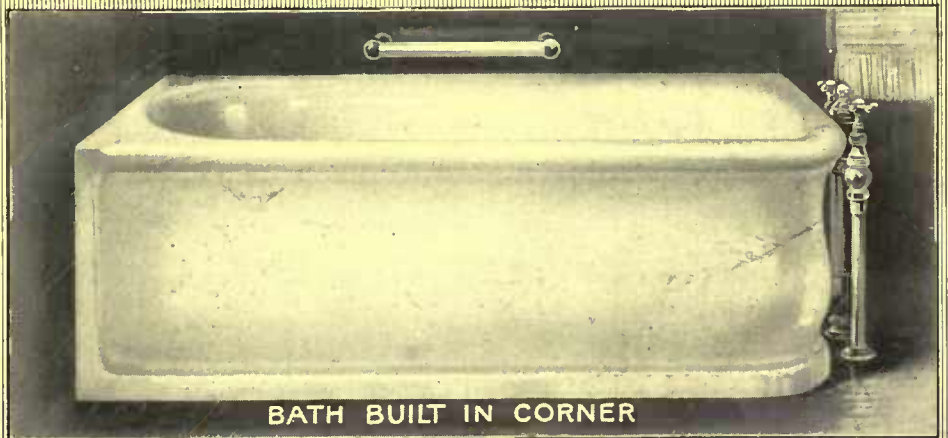


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cannas on each side of it and morning glories to clamber over it. We stuck moss in the crannies of the wall, and planted trailing nasturtiums on top. It was the loveliest spot in our garden.

Between the two front beds in the terrace garden the Amateur Gardener made the entrance. There are two low steps made of railroad ties, and on either side a low stone post of rough field stones, put together without mortar, like those in the wall. These posts are filled with soil, and in each grew last summer a tall spreading plant of scarlet sage and a tangle of parlor ivy. It made a charming entrance to the little garden, and gave just the right touch of informal formality, to employ a paradoxical statement.

By the time the Amateur Gardener had finished being a carpenter and a mason, events of great importance were beginning to take place in our garden. I have never spent such an interesting and exciting summer. When the long-expected green things popped up out of the beds we felt as proud as a fond mother when baby cuts his first tooth. On the whole, the garden treated us well. In the back beds the portulaca, the phlox, and the larkspur made the blaze of color the catalogues had promised us. The four o'clocks adorned our afternoons with beauty. The nasturtiums on the stone wall flourished, but as for the ones in the beds—the less said about them the better. We had a very hot, dry spell when the plants were young, and, discouraged by this setback, they refused to "make good." But the lily bed helped us to forget this behavior of the nasturtiums. It was wonderful. Each blossom lived only a day, but the buds were so numerous that the bed was filled with bloom for over a month. When I went out to look at the lilies in the morning I was always reminded of Omar Khayyam's "Each morn a thousand roses brings, you say."

Almost as soon as the lilies had gone the dwarf sunflowers began to bloom, and gave us until frost a tall growth of golden and lemon-yellow flowers. For prolific and long-continued blooming, however, we decided that the palm must go to the petunias. The little plants grew tremendously, and by the middle of July had completely filled the bed with a mass of flowers, shading from white through a pinkish lavender to the deepest of purples. The number of blooms did not apparently begin to diminish until the first of October.

The cosmos planted along the sides of the house was a great disappointment. It grew fairly well, but for some reason the effect wasn't at all good. However, one learns by experience, and next year the cosmos will be banished elsewhere.

But the morning glories made up for everything! They climbed madly up the strings provided for them—two or three vines to a string, so lavish had been our planting—and when they reached the top they kept on growing, and foamed down again in a twisty cascade of heart-shaped leaves and soap-bubble tinted flowers. It

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seemed a pity that the blossoms closed up so early each morning, but I suppose that is really a part of their elusive charm. The thick mat of leaves was beautiful at all times, and when the moon shone on and through it, was lovely beyond description.

We became inordinately proud and puffed-up about our garden as it grew lovelier every day. People passing on the road would stop and stare and turn back to look at it. Friends who came out from the city were gratifyingly surprised, and demanded to know "what we had done to the place since last year." But a man who knows and loves gardens paid to ours the compliment we most appreciated. "Your garden is charming," he said. "It looks as if it had always grown here."

The Amateur Gardener and I exchanged a look of delight. It was the happiest moment our garden had given us—that moment when we were assured of having, to some extent, attained the result we had striven for. A beautiful feeling of pride and satisfaction stole over me, and I am sure the Amateur Gardener shared it.

We are not planning, though, to rest on our laurels. Our garden isn't finished yet—it's hardly begun. Gardening, to its true lover, is a fascinating game which he can play forever without tiring. Of course "it takes a lot of your time," and "it's such hard work" (I quote those without the pale)—but aren't you *glad* you don't plant a few railroad-station beds of geraniums and coleus and things, cut your grass regularly, and then sit on the porch and think you've done your duty? I am.



The Naturalizing of a City Man (Continued from page 27)

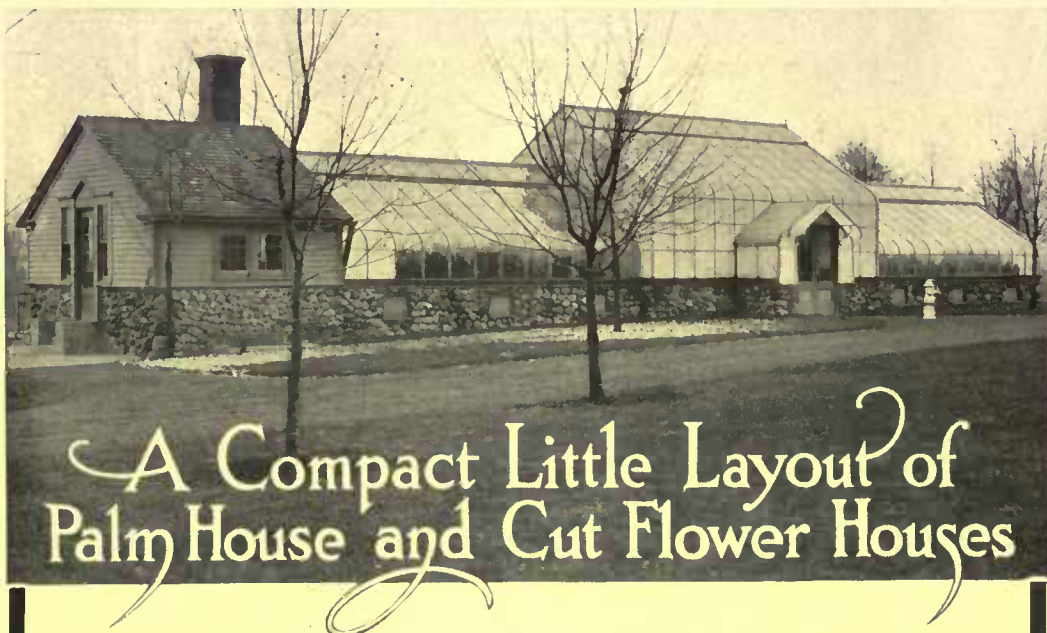
ship to Boston, as he had heard Mantell intended.

But the time finally came, early in February, when several warm days had cleared off all the snow and made it comfortable to work bare-handed out of doors, when they actually broke ground.

They had to break it literally, too, but again chance was on their side, for the particular spot south of the barn which they had selected as the greenhouse site had been used to stack meadow hay and pile sawdust for the icehouse, and on the several inches of spongy, decayed vegetable matter thus accumulated, a rank growth of weeds had annually sprung up and rotted down. The frost here was not nearly as deep as elsewhere, and it broke much more readily beneath the blows of pick and crowbar.

On a warm, bright Sunday afternoon they laid out the lines—much to the professed horror of some of the natives who, if the truth were known, were glad of any excuse, religious or otherwise, not to work.

Monday night saw the corner posts set, and most of the other holes dug, and Rob-



IT was planned particularly to fit a particular available space, between the garden and the residence drive. And it fits it admirably.

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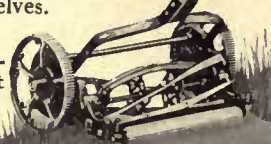
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ert stayed home for the next two days to help with the path and the rest of the posts. After that the framework went up rapidly. They got a carpenter for two days, to help with some of the harder work, such as fitting doors, sash bars, ventilators.

They had bought several bundles of newspapers and tacked these up several thick, over the part of the barn which was to furnish their back wall. Over this they had laid $\frac{1}{2}$ ply roofing paper, which made a smooth, neat and very cold-proof wall. The front wall, which was three feet high, was boarded up half way, given a double layer of tar paper and then boarded again on the outside. Between this and the eave-plate, which they had had cut out just as they wanted it, twelve of the small window frames were fitted, each held in place with a couple of short leather straps, at the top, and a wooden "button" at the bottom, so that they might be opened for ventilation. These frames were used also on the ends, and above them sash bars that they had sawed out themselves, since for use in this position no "drip" groove was required, as it was in the roof bars. For the ends of the house they managed to get from the contractor 50 lights of second hand 12 x 14 inch glass, and the bars for it were put in 14 inches apart.

The sides of the walk that had to be dug down two feet deep were boarded up with some old oak boards, tough as iron, that they got from Squire Hunderson in exchange for more green lumber. The contractor also had taken as pay for his glass, tar-paper, roofing paper, etc., 2 x 4 and 4 x 6 chestnut planks; but as he used a good deal more of these than the materials bought from him amounted to, the bookkeeping department had recorded this as a cash purchase.

The sash bars were supported in the middle by an inch pipe, running horizontally, and inch and a half upright pipes, set in concrete. The sash bars for the roof were set ten inches apart for the 8 x 10 glass, and 12 for the 10 x 12. The frames for the five ventilators cost \$1.50 each, unpainted and unglazed.

Saturday night saw the framework completed, and excitement ran high. Robert and Raffles went to Priestly that night, for the once-a-week shopping expedition, and smuggled home, wrapped carefully in a blanket, a small keg, which was deposited behind the kitchen stove after the family had retired.

Sunday was a beautiful day—"the first breath of spring." The last streaks and patches of snow shrank visibly from the brown hillsides. It was an ideal day for a long drive, and everything was made ready. But when leaving time came, no Raffles or Robert put in an appearance, and a hunt for them proved fruitless. So Mr. Mantell, his wife and Helen went alone. They had a journey which gave them more genuine pleasure than any mud-splattering auto ride they had ever taken, for now every farm, every field,

was an object of intense interest, and they found more to notice and study than they had ever dreamed possible. At the same time they enjoyed the beauty and inspiration of it all more than ever before.

On the way back they stopped at Squire Hunderson's. After the usual greeting, and a remark or two about the weather—over which he shook his massive head despairingly—he opened fire on Mantell.

"Huh! nice sort of a reputation you'll get," he boomed, in his genial bass voice—"workin' your men on Sunday like that."

"Working my men on Sunday?" inquired Mr. Mantell wonderingly.

"Yes," said the Squire, "workin' 'em like galley-slaves. On the way to church we saw 'em workin' at that hothouse of yours, and on the way back they were still at it, hammer and tongs."

And sure enough when Mantell got back to the house, Raffles and Robert, in their old clothes, daubed up with liquid putty, and the latter with a red-streaked rag around one finger, were putting in the fourteenth row of glass. Robert was armed with a rubber putty bulb and was working just ahead of Raffles, who laid the glass, and between them they made rapid progress.

"It's quite scandalous," said Mrs. Mantell, but they kept on until dinner was ready. And after a hasty meal, it must be confessed that Mr. Mantell quietly slid out the side door, to avoid a possible argument, and gave such enthusiastic assistance to his over-zealous helpers that nightfall saw the last pane of the roof in place. Mantell even stole out in the moonlight to admire it before going to bed.

"Henry," Mrs. Mantell said to him, "you haven't been as crazy about anything since you organized your first company!"

"I know it, dear," he replied, administering the light little kiss upon her forehead that he always gave her when he was particularly pleased with things. "Why shouldn't I be? I'm having more fun right now than I've ever had in my life, I think. And think of the advantage this is going to give us over our hide-bound competitors! We'll show 'em yet."

It proved to be a very good thing that they had taken advantage of Sunday's good weather. Monday was bright, but colder and the work on the ends of the house did not go so fast. However, as Robert had insisted on staying home from school, and as they worked hard, the first whirling snowflakes of the afternoon found them putting in the last of the glass. And the following morning, with a four-inch blanket of light snow piled on hill and forest, the little spot of real bare ground 25 x 12 feet, inside the greenhouse, looked most encouraging. They scraped the snow off the roof, and began at once digging out a square near the door for the second-hand coal stove which was to serve as their boiler. Raffles had two short pieces of 1¼" pipe so twisted and coiled that he was able to get several feet of it inside the top of the fire box, and two

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others of 1½" pipe twisted in a close spiral that fitted over the outside. These were, of course, connected, and from them two runs of inch pipe went completely around the walls of the small house, with an open tank—made of an old paint keg—at the far end.

Great was the excitement when this clumsy apparatus was first set going with a fire of dry pine limbs; but it worked. Indeed, with a good coal fire they could keep the water boiling in the keg.

For the next few days it was kept going night and day (and at noon the thermometer hung inside often stood as high as 115 degrees) to dry things out.

Dirt was heaped on top of the stove, dried out, and replaced with another batch to get material sufficiently dry to use for starting seeds.

Then there were the benches to put up, and a hundred little odds and ends to be attended to, such as having the blacksmith make irons for the ventilators out of old wagon tires, and sawing up boxes for flats.

The middle of the month had arrived before the first flats of cabbage and lettuce were up. It took a great deal of care to manage the fire so that coal-gas would not defeat their efforts, but the exceptionally direct draft they had for the stove helped to overcome this difficulty.

Of course without Raffles' practical knowledge and experience in all this work it would have been impossible to get results anywhere nearly as good as those they did get. Mantell realized this. But he was only taking advantage of the factors which could be made to work in his favor, where a man of less energy would not have made the attempt. The croakers at the village store still croaked, and predicted failure. But the seeds sprouted, and day by day their little leaves grew bigger. Their first radical, definite effort seemed to be meeting success, and every official and employee of the Mantell company looked forward with unbounded enthusiasm to the wider activities that the opening of spring held in store.



Stories in the Snow

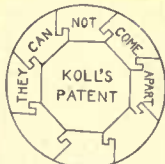
(Continued from page 33)

has ranged the woods, loading fat under his shaggy coat, without ever a thought of the lean season to come. But now he has a sharp reminder and sets out upon his search with all the thoroughness and enthusiasm of some seeker for that ideal apartment. After we have followed him a while, we shall be certain that he will find it. Every brush heap is nosed into, fallen trees are carefully examined, and large standing ones are entirely walked around to see if perchance they contain a hollow large enough for a long nap. Ledges of rock are particularly interesting and are gone over most minutely. Little recesses that appear promising are dug clear of snow. In some he even lies down

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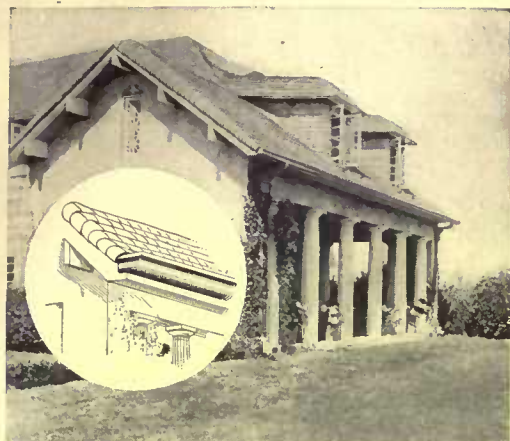
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to try them, but being dissatisfied gets up and hunts further. At last he finds it. If he is a little fellow, it may be in the rotted out heart of a prostrate hemlock. One of my acquaintances once crawled head first into such a retreat after a supposed coon, and was mightily surprised when he shot a last spring's cub. The bear's retreat may be between two rocks, with a down tree forming the roof, and an old top or brush heap well banked with snow makes a snug haven. Through the deepening blanket his warm breath makes a little blow hole. If some hunter chances upon it, he will dig down and put effective stop to the spring awakening.

This story of the snow is a fascinating narrative. It is no fireside tale, to pass an idle hour while the toes are toasted, but takes one far afield, over broad, white meadows and in the crisp winter woods, in the very theater where all the action has occurred. The setting itself is sufficiently beautiful to lure one out. But when one can reconstruct all the vital scenes themselves from the records in black and white—sometimes red—the interest is irresistible. Ordinarily the reports are full and complete, but there is upon occasion opportunity for full sweep of the imagination. It may be where one of the tiny mouse tracks has ceased, with no back trail. The snow holds no explanation, unless it be in little agitated patches on either side, brushed by the downy wings of some noiseless, swooping vagabond of the air, "such as," to paraphrase the old English, "sleeps on the day and flies on the night, and haunts caverns and questionable places, and no thing wots whence it comes nor whither it goes."



Forehandedness in the Vegetable Garden

(Continued from page 37)

the way. If the tops are cut back at transplanting about one-third it will improve the plants.

Corn has to be handled somewhat differently. As it is not started until the frost is out of the ground, you can procure sod, which should be cut into four or six inch squares, several inches thick. These are packed together, inverted, and the seed sown and covered with an inch or so of fine soil. When the weather is settled, these "hills" are set out, the surface of the sod being put two or three inches below the level of the ground.

Squashes, melons and cucumbers may be started in the same way. But four-inch pots, packed in leaf mold or moss in deep flats, make a more convenient method. The soil should be half very old rotted manure, and the pots at first only half filled and then filled in more as growth proceeds. Several seeds are sown in each pot, and the plants thinned to one or two. Potatoes are cut to one eye, half buried

Sweet Peas

With our five farms in Pennsylvania, New Jersey and California, we have the largest, most complete trial grounds,—*"to prove all things."* We were the first in America to grow "SPENCERS" and have to-day the choicest strains of these magnificent, gigantic, waved Sweet Peas. Unlike seeds generally sold, Burpee's Re-Selected Stocks come absolutely true both to color and to superb SPENCER type.

Six Superb Spencers

For 25 Cts. we will mail one regular ten cent packet each of FLORENCE NIGHTINGALE, the largest and best lavender; CONSTANCE OLIVER, rich rose pink on cream; MARIE CORELLI, beautiful, brilliant crimson; PALMROSE SPENCER, the best primrose; SENATOR SPENCER, claret flaked on heliotrope; and W. T. HUTCHINS, apricot overlaid with blush-pink. These Six Superb Spencers are shown painted from nature on pages 109 and 110 of Burpee's Annual for 1912. Purchased separately they would cost 65 cts., but all six packets, with leaflet on culture, will be mailed for **only 25 cts.**; five collections for **\$1.00.**

Six Superfine Spencers

For 25 Cts. we will mail one regular ten cent packet each of AURORA SPENCER, orange-salmon flaked; HELEN LEWIS, rich crimson-orange; KING EDWARD SPENCER, glossy carmine-scarlet; MRS. C. W. BREADMORE, picotee edged pink; MRS. HUGH DICKSON, lovely pinkish apricot, and a large packet (80 to 90 seeds) of Burpee's Best Blend for 1912 of SUPERB SPENCER SEEDLINGS. Leaflet on culture sent with each collection.

Six Standard Spencers

For 25 Cts. we will mail one regular ten cent packet each of APPLE BLOSSOM SPENCER, rose and pink; COUNTESS SPENCER, the best pink; GEORGE HERBERT, rosy carmine; MRS. RUTZAHN, buff suffused with rose; QUEEN VICTORIA SPENCER, primrose flushed pink, and TENNANT SPENCER, rich rosy purple.

25 Cts. buys **any one** of the above three collections, **any five** collections for **\$1.00** and mailed to different addresses if so ordered.

For 50 Cts. we will mail **any two** of the above collections together with a 15-cent packet of the most gorgeous, new THOMAS STEVENSON, making in all **thirteen packets** of SUPERB SPENCERS for **only 50 cts.**

For \$1.00 we will mail all three collections, neatly boxed, and also one regular packet of THOMAS STEVENSON, the charming new GLADYS BURT, the dainty ETHEL ROOSEVELT and BURPEE'S WHITE SPENCER, making in all twenty-two true Spencers for **\$1.00**, together with our leaflet on culture and paper on the Spencer Type of Sweet Peas.

BURPEE'S ANNUAL FOR 1912

This "SILENT SALESMAN" of the World's Largest Mail-Order Seed Trade is a Bright Book of 178 Pages. It tells the **plain truth** about the Best Seeds that can be grown,—as proved at our famous FORDHOOK FARMS—the largest, most complete Trial Grounds in America. Handsomely bound in lithographed covers, it shows, with the colored plates, Six Specialties in unequaled Vegetables, and Nine Beautiful New Flowers, including the most superb "Spencer" Sweet Peas. It is a Safe Guide to success in the garden and should be consulted by every one who plants seeds, whether for pleasure or profit. It is **Mailed Free** upon application. Shall we send YOU a copy? If so, kindly **writa to-day**, naming HOUSE & GARDEN, and address

W. Atlee Burpee & Co.
Philadelphia



Murphy White Enamels

Made in three Finish Effects, High Gloss, Semi-Gloss, and Dead Flat.

Semi-Gloss Enamel

Needs no rubbing. Dries to the Half Gloss finish.

Snow-White Enamel

Being absolutely free from tint, is especially adaptable to Coloring. Is made with Murphy Japan Colors, into perfect Ivories, new or old, or into any shade or tint of any Color for a Decorative Scheme.

In the room shown in the picture this same enamel is used on wood trim and furniture. The effect is restful and harmonious.

SEMI-GLOSS Enamel is the most inexpensive fine finish on the market. If you contemplate finishing even one room of your house, or the entire interior with enamel, it will repay you many times to procure the best.

Write today for descriptive booklet.

Any samples or information regarding the finish and decoration of your house promptly supplied upon request.

Murphy Varnish Company Wood Stains, Nogloss Varnish for standing woodwork, Floor Varnishes and other architectural finishes will be of interest to you.

Address Department of Decoration

Murphy Varnish Company

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The Varnish
That Lasts
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Associated
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MRS. HERBERT NELSON CURTIS

22 East 34th Street

NEW YORK CITY

TELEPHONE 2970 MADISON

in a flat of sand, and given full light. Plant in furrows four inches deep.

Onions, until quite recently, were never started under glass. An early start, however, makes more difference in the development of onions than of any other vegetable. They are not transplanted before being set out—you simply have to start them. Put a little manure in the bottom of a deep flat ($\frac{3}{4}$ inch), cover to within an inch or less of the top with rich soil, and then cover with half an inch of clean sand, in which plant the seed thinly in rows about three inches apart. Two or three times during growth, the tops should be cut back about a third, and the roots cut back about two-thirds, when setting out in the field. They should be sown early in February, and will be ready to go out in April.

All this will assist you in getting that desirable early start. But one word of warning. Don't counteract it all by attempting too much. Go slow until you know your way thoroughly.



A Skirmish for a Garden

(Continued from page 38)

larkspur five feet high with fifteen plumes fit to ornament a queen's crown. We had tiger lilies, white lilies, golden glow, sun-flowers, a white flower and a bell-shaped, saffron-hued flower, whose names we did not know. We had them, that was enough. They were ours. We planted them. They came smiling up to us from the hopeless red clay and the flinty rock and the despairing prophecies of well-intentioned friends.

We had our butterflies and bees, as well as the flowers. Humming birds came to feed about the blossoms and robins searched for the worms we dug. One of them came every morning, a little shyly at first, to get the fat worm we unearthed for him. With continued visits he became gradually more friendly until we could dig within two yards of him, toss him a worm, which he would eat, and then another, with which he would fly away, each time in the same direction.

One morning I took my telescope rifle—no, not to shoot, but to watch him. Being an old hunter and sportsman, I rather like the use of the telescope rifle now, to watch with. I haven't shot with it at a living thing since that morning when I looked through the telescope and saw the robin fly off to a tree in the neighborhood and feed its young with my freshly dug worm. I guess I am growing old, maybe, for shooting with the rifle doesn't seem as attractive as it used to be.

Anyhow, I am getting to enjoy using my quick, fine sighting eye, skilled to deadly aim, in practising on watching the life of birds, and butterflies, and bees, and flowers—and insect pests. It requires a great

(Continued on page 60)

**\$5000.
PRIZE
SWEET PEA
QUARTET**

Plant Them This Year

Over in London last July in the great Flower Show, held at the Crystal Palace, Mrs. Fraser won, with this Sweet Pea Quartet, the one thousand pounds sterling prize for the best vase of blooms. There were over 10,000 exhibitors competing.

This shows the tremendous popularity there is in England for these exquisite, fragrance-laden flowers. As a result, sweet peas will be grown over here more than ever this year. This means you will surely want some of the seeds of this Prize Quartet to plant along with your others.

It will be intensely interesting in growing them, to find in their blooms the excellent points that brought them into such prominence.

There is going to be a lot of good-natured, neighborly competition in growing them—a competition in the pleasure of which you will want to join.

So order your seeds early and plant them early, for much of their success, as you know, depends on a good, deep root growth before the hot spring suns come.

Here are the varieties in the Quartet—
Paradise Carmine—clear, lovely, carmine, waved.
Constance Oliver—delicate pink, suffused with cream, waved.

Arthur Unwin—rose shaded with cream, waved.

Tom Bolton—dark maroon, waved.

1 packet of the above four prize winners for \$.35
3 collections, or 12 packets in all, for..... 1.00
Postpaid. With your order we will send along

BODDINGTON'S 1912 GARDEN GUIDE, which contains a complete description of the contest. It is a beautifully illustrated book of 152 pages, and is a decided departure from the usual so-called "Seed Catalog."

The "tell you how" cultural directions are told in a matter-of-fact, interesting way by successful gardening lovers.

Whether you buy the Quartet or not, we will be glad to send you this Garden Guide.

Get it now—and plan your garden now—pick out your seeds now—and so get things started now for an earlier garden this year.

BODDINGTON'S SEEDS

ARTHUR T. BODDINGTON
334 West 14th Street
New York

Paint Without Oil

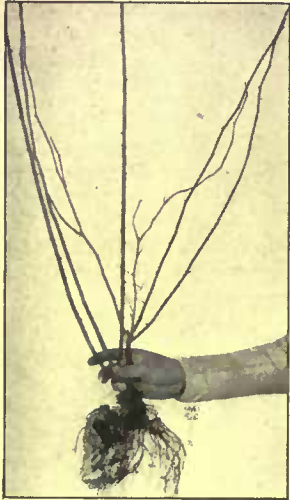
Remarkable Discovery That Cuts Down the Cost of Paint Seventy-Five Per Cent.

A Free Trial Package Is Mailed to Everyone Who Writes.

A. L. Rice, a prominent manufacturer of Adams, N. Y., has discovered a process of making a new kind of paint without the use of oil. He calls it Powderpaint. It comes in the form of a dry powder, and all that is required is cold water to make a paint weather-proof, fire-proof and as durable as oil paint. It adheres to any surface, wood, stone or brick, spreads and looks like oil paint and costs about one-fourth as much.

Write to Mr. A. L. Rice, Mfg'r., 43 North St., Adams, N. Y., and he will send you a free trial package, also color card and full information showing how you can save a good many dollars. Write to-day.

Splendid Roots of Fairfax Roses Assure Their Fine Blooming



Forcing a rose to throw out heavy canes and bear lots of leaves doesn't make it a durable rose. To succeed, a rose plant must have thrifty roots. My Fairfax Roses do have magnificent roots, as the illustration shows.

My Fairfax Roses Build Rose Gardens That Last

Great care marks every stage of their development. I specialize on roses grown on their own roots, from strong, vigorous cuttings. It takes an expert to so handle these cuttings that they will retain the vigor of the parent plant until established for themselves.

Fairfax Roses get that expert care—the result is seen when you compare my plants with those grown from the weak little "one-eyed slips" used by some rose-men. When you have rose plants with roots like these, you may be sure the top will come right, too, as the picture shows.

I have picked a location that is exactly right for growing roses of real character—not for the South alone, but for all parts of the North, East and West as well. My

Fairfax Roses are making successful rose gardens in Mexico and in Oregon; in Maine and in the Sunny South.

Different climates require different classes and varieties of roses, but the plants I have shipped to these different locations were all grown here under identical conditions. My lists of roses include all leading groups and classes in nearly 150 varieties—each of which I have proved by actual tests to be worthy a place in my Catalog.

My Book, "Fairfax Roses," free if you expect to buy

It lists, describes and illustrates Roses accurately and fully; also includes complete descriptions of Dahlias, Chrysanthemums, Rare Ferns, Bedding Plants, etc.

W. R. GRAY, Box 26, Oakton, Virginia

Thorburn's Seeds

AFRICAN ORANGE DAISY No Garden Should Be Without It

A rare and extremely showy annual from Namaqualand, South Africa, of very easy culture. The plants of neat branchy habit, grow about 12 to 15 inches high and are exceedingly profuse in flowering. Its Marguerite-like blossoms, $2\frac{1}{2}$ to $2\frac{3}{4}$ inches in diameter under proper cultivation, show a unique, glossy, rich orange-gold, with dark-colored disc surrounded by a black zone. It produces its pretty flowers very early after being planted out in the open ground in sunny situations, and will continue to flower during the summer. Plant in soil not over rich.



We will mail a packet of this superb annual and a copy of our beautifully illustrated catalogue, 144 large pages—the best seed book published in America—for 10c stamps or coin. Write to-day.

Catalogue Now Ready

J. M. THORBURN & CO.
(DEPT. 2)

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EXCELSIOR "RUST-PROOF" FENCE, TRELLIS AND TREE GUARDS



THE majority of wire Trellises, Fences and Arches rust out after a short exposure to the weather. Wright's Excelsior "Rust-Proof" brand is absolutely weather-proof. The entire wire fabric is immersed in melted zinc and so heavily coated that moisture cannot reach the steel wires.

If you take pride in the neat appearance of your place, and want a permanent Fence or Arch, make your dealer order Wright's Excelsior "Rust-Proof" brand for you. Let us mail you an illustrated catalog.

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World's Choicest Nursery and Greenhouse Products
EARLY SPRING PLANTING

The proper way to buy is to see the material growing. We invite everybody interested in improving their grounds to visit our Nursery, when we shall gladly give our time, attention and any information desired. Our Nursery consists of 300 acres of highly cultivated land and 500,000 square feet of greenhouses and storehouses, in which we are growing Nursery and Greenhouse Products for every place and purpose, the best that experience, good cultivation and our excellent facilities can produce, placing us in a position to fill orders of any size.

ROSES. We have several hundred thousand Rose Plants. Order now from our illustrated General Catalogue for Spring Delivery.

RHODODENDRONS. Many thousands of acclimated plants in Hardy English and American varieties are growing in our Nursery.

HARDY OLD-FASHIONED PLANTS. We have thousands of rare, new and old-fashioned kinds. Special prices on quantities.

DECIDUOUS TREES AND SHRUBS. Many acres of our Nursery are planted with several hundred thousand trees and shrubs. It is worth while to visit us and inspect them.

TRAINED, DWARF AND ORDINARY FRUIT TREES AND SMALL FRUITS. We grow these for all kinds of fruit gardens and orchards.

PLANT TUBS, WINDOW BOXES AND GARDEN FURNITURE. We manufacture all shapes and sizes.

OUR NEW GIANT FLOWERING MARSHMALLOW. Everybody should be interested in this Hardy New Fashioned Flower. It will grow everywhere, and when in bloom is the Queen of Flowers in the garden. Blooms from the early part of July until the latter part of September.

OUR ILLUSTRATED GENERAL CATALOGUE NO. 40 gives prices and describes the above and all our other Products.

WE PLAN AND PLANT GROUNDS AND GARDENS EVERYWHERE.

OUR PRODUCTS give permanent satisfaction because they possess the highest qualities created by our excellent standard of cultivation.

VISITORS, take Erie Railroad to Carlton Hill, second stop on Main Line; 3 minutes' walk to Nursery.

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Nurserymen, Florists and Planters

Rutherford, N. J.

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A real tiled bathroom

No imitation of tile in a bathroom can take the place of the real tile. When it comes to resisting dampness and steam, no surface is so impervious, and when it comes to making an attractive white or delicately tinted bathroom, nothing can give the effect of tile.

In our booklet, "Tile for the Bathroom," are some interesting facts about the actual cost of tile. You will be surprised at the comparative inexpensiveness of tile. This booklet is sent free to home builders, as are also the following: "Tiles for Fireplaces," "Tiles for the Kitchen and Laundry," "Tiles on the Porch Floor." You would do well to read them before perfecting your plans.

THE ASSOCIATED
TILE MANUFACTURERS

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Beaver Falls, Pa.



Spencer & Powers, Architects

A TYPICAL BUNGALOW AT GLENCOE, ILL.

Every window a casement.
Every casement tight in winter.
Easily opened and closed.
Next summer for 100 per cent
ventilation, for
THE OWNER BOUGHT our
casement transforming adjusters
to operate the sash quickly, easily
and securely from INSIDE THE
SCREENS.

Our free booklet shows how

The Casement Hardware Co.
175 N. STATE STREET
CHICAGO, ILL.

(Continued from page 58)

deal more skill to keep the flowers alive and the pests dead than to hit a bird with a well-aimed rifle, as I found this year when I tackled the aphids with whale oil soap and killed eighteen rose bushes and seventy-five feet of beautiful sweet peas, and the aphids. So now I am going to turn the telescope of experience on the next druggist who sells me *fish oil soap for laboratory uses only for whale oil soap*.

And this year, by the way, my little eight by ten box, thirty feet long in front and at the side of the porch has at each pillar climbing vines, five feet high, with great big beautiful glossy green leaves; nine beautiful red peony bushes with from five to nine blossoms on each; twelve geranium bushes, with great beautiful leaves and double red blossoms; a lillium aurum four feet high with four blossoms, and dwarf nasturtiums—all except the climbing vines nicely arranged behind a solid row of tulips red beyond description, which have just finished three consecutive weeks of fairylike bloom.

Our dandelion patch is now a velvety carpet of closely cropped white clover. The damp muddy spot at the base of the terrace back of the kitchen door, triangular in shape, eight feet base and four feet at the widest point, which last year was the day and nightmare of the good housewife, by the same process which transformed the front of the porch, is growing more lettuce than we can eat, in addition to parsley, mint, strawberry plants six inches high, and a fringe of Shirley poppies.

The three-foot strip around the back yard lawn is keeping a vase of roses, plucked daily, on our dining-room table; it has a new crop of sweet peas two feet high *blooming* over the grave of the poor fellows murdered with fish oil soap; radishes, beets, onion sets, cucumbers, rhubarb, strawberry plants, a seventy-five foot red raspberry hedge, larkspur, tiger lilies, white lilies, golden glow, sun-flowers, lilacs, white and colored, which have bloomed, the beautiful saffron-colored flowering plant, the name of which we don't know, and don't care to, because it is so beautiful. And I won't name any more because I don't think there are any.

But next year I may have a watermelon patch. Who knows!

And I just used the same scheme in the three-foot strip around the back yard that I used at the base of the front porch, painting the boards green instead of brown, because the grass is green and the porch is painted brown.

We rent the house. But this year the owner was offered \$2,000 more in cash for the place than the same bidder offered the month before we moved in one year ago the 10th of June.

I forgot to mention the pansy bed two feet wide lining the other side of the house along a wood walk, which was as bare as Sahara until we carpeted it with great big pansies, of which each child in the neigh-

Put Your Home Behind A REPUBLIC FENCE

The fence is as much a part of your home as the porch—the gate is your front door. It gives the visitor or passer-by his first impression and tells whether you are proud of your home or slovenly and careless about it.

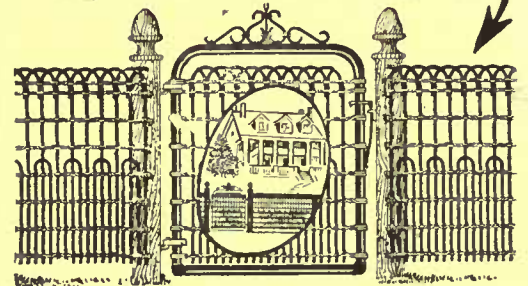
Put your home behind a **Republic Ornamental Lawn Fence** and put yourself among the most discriminating home owners of the country.

The REPUBLIC FENCE & GATE CO.

is one of the big concerns of the country—and its growth is due solely to the merits of its product. We stand behind our fence and guarantee every foot of it to be perfect and to fulfill every promise and statement we make—when you buy from us, you are sure of big value and absolute satisfaction.

The Republic Tubular Steel Farm Gates are built for a lifetime of the hardest service—light, but strong. Books free—write today. Also ask for any advice you need about how to make your grounds more beautiful.

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HOWARD Dustless Duster

(25 Cents Prepaid)

Makes possible
a dustless home.
Write for our
Dust Book "A"
and small free
sample.

It will show you how
to make dusting a
pleasure, how to dry
clean a silk skirt in
five minutes, how to
clean windows in a
twinkling, to polish pianos and highly finished
furniture, to make cut glass sparkle like dia-
monds, to make an old derby look like new.

Money back if not satisfactory

HOWARD DUSTLESS DUSTER CO.
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HOWARD

DUSTLESS DUSTER



"No Oil to Soil"

borhood is permitted to pick one every day.

One morning I was looking out the kitchen window. Two little farmer girls came from the alley through the board gate of the board fence. My circular spray was throwing a lace-like mist into the air near the pretty little willow tree in the center of the back lawn. The little girls stopped and one of them said, "Oh, this is just like fairyland!"

Somehow I forgot the fresh blisters which had made me cuss in the morning. I forgot the lame back which I had sat down to rest. I knew it was not really fairyland; it was really not like fairyland; it was just a back yard, and I don't like to be sentimental. But that miserable little patch of ground looked to me that morning more like heaven with a couple of angels in it than anything else I have ever seen in a hard, drilling, heartless business career.

I wouldn't bother you with this if I knew anything about gardening, and flowers and vegetables; I know nothing. I never before produced anything in the line of flowers except a check to pay the florist with. But I read HOUSE AND GARDEN, and got interested and got busy, and made our desert bloom.

I am just a roomer in the house, that is all; a mere crabbed bachelor. Try it, boys. It beats the Club all to thunder.



Order Your Shrubs for Spring Delivery

Another good thing to do now is to go over your nurseryman's catalogue and pick out some ornamental shrubs to plant this spring. They will need the minimum of care, and give you beautiful results for years to come. Good specimens of a great many varieties are to be had for twenty-five cents apiece. Surely you can afford four of them, and in what better way could you possibly spend a dollar? Order them now, while you think of it, because if you let it go till spring you'll never get time to do it. They will be forwarded at the proper season, when it will take you possibly an hour, at the most, to set them out. There will be an immediate return of several hundred per cent. on your investment, in the improved looks of your place. Nothing is more surprising than the effectiveness of a few good shrubs judiciously placed.



Rose Bushes from Blossoms

I WAS first led to try this "whistle-from-a-pig's-tail" performance when a friend gave me a great, creamy, waxy Frau Karl Druschki rose, all too wonderful to live but its three little days.

So, when the blossom was gone, I cut all but the two top leaves from the stem,

Diamond Tires

THE dealer who sells you DIAMOND TIRES is thinking of your profit as well as his own—he is "tire-wise"—and believes in trading up—rather than trading down.

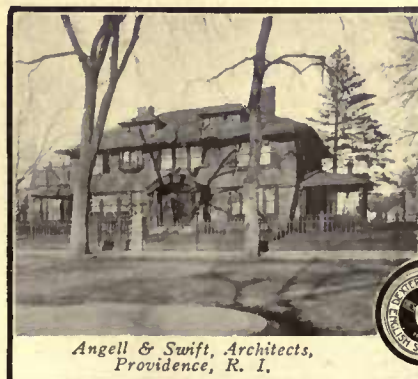
He can buy cheaper tires than DIAMOND TIRES, and make a larger one-time profit, but he cannot sell you better tires.

The dealer who sells you DIAMOND TIRES can be depended upon when he sells you other things—he believes in service—in integrity. He's reliable.

In addition to dependable dealers everywhere, there are FIFTY-FOUR Diamond Service Stations. Diamond Service means more than merely selling tires—it means taking care of Diamond Tire buyers.

The Diamond Rubber Co
AKRON, OHIO

*We could build them cheaper
But we won't
We would build them better
But we can't*



Waterproof the wood yet preserve its natural surface

Dexter Brothers English Shingle Stains

are mixed with pure linseed and special Dexter preservative oils which waterproof the wood as well as bring out the beauty of the grain. When used on shingles, the soft, velvety appearance of the furze is retained. Paint entirely conceals the surface and destroys the "texture."

Only the best English ground pigments are used. The full, strong color lasts long after other stains have faded or turned black.

Dexter Brothers English Shingle Stain costs far less than paint, and will outwear paint or any other stain.

Write for booklet and 22 stained miniature shingles.

DEXTER BROS. CO., 115 Broad St., Boston, Mass.

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Makers of PETRIFAX CEMENT COATING

AGENTS: H. M. Hooker & Co., Chicago; E. B.

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Stain brings out the grain, gives a soft, velvety appearance. Paint hides the grain, spoils the natural surface.





A welcome spot on a hot day

The veranda fitted with Komi Green Painted Porch Curtains offers a cheerful welcome to summer-day visitors. It adds to the house a shady, out-door room in which to entertain your friends.

Komi Green Painted Porch Curtains

will stand all kinds of weather and will not fade. They are made of tough bamboo and fitted with galvanized blocks and cotton rope. Ask your dealer to show you Komi Porch Curtains—they cost so little and mean so much in comfort that no home should be without them. If your dealer doesn't handle them, write to us.

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A course for Homemakers and Gardeners taught by Prof. Craig and Prof. Beal of Cornell University.

Gardeners who understand up-to-date methods and practice are in demand for the best positions.

A knowledge of Landscape Gardening is indispensable to those who would have the pleasantest homes.

250 page Catalog free. Write to-day.

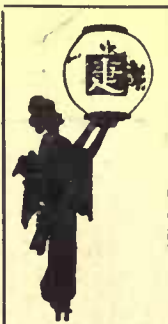
THE HOME CORRESPONDENCE SCHOOL
Dept. 226, Springfield, Mass.

YOU CAN HAVE

EARLY VEGETABLES,

fully a month or more ahead of your neighbors, by sowing the seeds during FEBRUARY, in paperpots in the house. (Much preferable to earthen-ware.)

LIST of BEST SORTS for EARLY PLANTING



Bush Beans, Choicest Lima.
Brussels Sprouts, Abundance,
Cabbage, Early Danish Giant,
Cauliflower, Early Snowball,
Celery, White or Golden Plume,
Eggplant, Improved Spineless,
Sweet Corn, Golden Bantam,
Sweet Corn, Country Gentleman,
Muskmelon, Emerald Gem,
Muskmelon, Fordhook prize,
Watermelon, Honeydew,
Parsley, Moss curled,
Pepper, Sweet Giant,
Kohlrabi, Early delight,
Tomato, Early Jewel,
Tomato, Dwarf Stone,
Tomato, Ponderosa,
Herbs, Marjoram,
Herbs, Thyme,
Herbs, Savory.

Any of above single packets.....10 cents
12 Packets, your choice.....\$1.00
20 Packets, your choice.....\$1.50, postpaid
With every purchase amounting to \$1.00 we send FREE one Dozen Paperpots.
With every packet sent, we mail "FULL DIRECTIONS how best to succeed with EARLY VEGETABLES started in the house."
Our IDEAL GARDEN BOOK for 1912 is free to all. SEND FOR IT. Address:

H. H. BERGER & CO.

70 Warren St., (Established 1878) New York City

cut the end cleanly, stuck it about an inch down into good black dirt in a shady place in the garden and set a fruit jar over it, piling the dirt nearly half way up the jar.

This was in June. I could see through the glass that the cutting was not dead and meant to let it stay undisturbed in its improvised hot house all winter, but—that fall the whole garden had to be shifted. When the baby bush came up it had no roots, but a white bunch at the end of the stem that looked promising, so it was reset under its jar. The next spring it put out leaves in businesslike fashion and proceeded to grow, so I took off the jar. The little bush stretched itself proudly like a boy in his first "long pants," threw out branches and grew a foot high that summer. It did not blossom.

In autumn it was cut back a little, protected as the other hybrid perpetuals were with strawy manure and left to take its chance. The next season it bore twenty roses. Not so large as the mother flower, which grew on a three-year, disbudded bush, but lovely roses nevertheless.

I have since tried stems of other perpetuals, teas, hybrid teas, ramblers and the old hardy roses. Under the same treatment, some rooted and others from the same bush did not. But I have experimented and found that sun will not do as well as shade; that a box with cleats inside to hold a pane of glass is as good as jars; not to crowd cuttings; that ramblers and teas root the easiest; that rooting roses need plenty of moisture. And I have never succeeded in rooting any sort of rose cutting but the blossom end of a stem. Florists do it, in greenhouses, but I can't, outdoors.



A Word on Furniture

"I THOUGHT it would come," exclaimed the old-furniture lover, as he and his companion stopped before the elaborately arranged "room" of a department store window. He pointed to a bed-frame, tricked out in the reproductions of old-fashioned Colonial drapery.

"Notice anything peculiar about it?" he asked.

Here was a square post, well-proportioned, dull-finished bedstead of mahogany. But wait—was it mahogany? The speaker looked at his friend quizzically, and his friend looked at him inquiringly. The former smiled.

"Just metal tubing, grained 'mahogany.' Handsome, isn't it? Meant to go with old Sheraton pieces, or reproductions in mahogany, in the modern bedroom of the swell sort. Clever? Yes. Artistic? No."

The graining work of this metal bed creation was of a high grade. Five feet away in the glare of daylight only an expert in finishes could tell the difference by the eye.

"Of what avail the teachings of William Morris, that apostle of sincerity in furni-

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On the Estate of Douglas Alexander, Esq., Stamford, Conn.

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"CRAFTSMAN" HOUSE PLANS FREE



Designed by GUSTAV STICKLEY

Send 6c for a copy of "24 CRAFTSMAN HOUSES," showing exterior and floor plans of 24 houses that cost from \$900 up to build. To interest you in our magazine, "THE CRAFTSMAN," our FREE HOUSE PLANS and in Craft articles, we will also send you a beautifully printed 32-page booklet entitled "The Craftsman House." If you are interested at all, both of these books will be very useful to you.

"THE CRAFTSMAN IDEA" means REAL HOMES, not mere houses; it shows you how to save money on useless partitions—how to avoid over-decoration, how to get wide sweeps of space (even in a small house), restful tones that match and blend—and enables anyone always to have a beautiful and artistic home.

"THE CRAFTSMAN MAGAZINE" treats of building, furnishing and beautifying homes—of art—embroidery—cabinet work—and kindred topics. In the Magazine each month are published the plans of two new and entirely different houses. Already we have shown 130 houses, and you can have your own choice of them.

"CRAFTSMAN HOMES," by Gustav Stickley, 265 pages beautifully bound and printed, treats of home building, home making, home furnishings in full. Address, "THE CRAFTSMAN," Ben. Wile, Ctr. Manager, Room 305, 41 W. 34th St., New York City

ture and interior decoration? It is one of the axioms of the new art that one may employ the effects of natural materials, but not 'fake' them in other materials. Yet we constantly see this violated in modern commercial production.

"And as soon as it is profitable to torture metal into Sheraton chair and bureau shapes, we will have metal furniture, costing nearly as much as old mahogany or satinwood, with imitation band inlay, or carving. I look forward to seeing the Empire style, so much debased in recent reproductions, and indeed, in genuine old pieces made on this side the ocean, reproduced in metal imitating mahogany, with gas-pipe columns surmounted by stamped Corinthian capitals and resting upon claws of the shape we see in old sideboards incorrectly dubbed 'Colonial.' Judging by the wholesale way in which the fine woods of the world are being made up into flashy and poorly designed furniture, and expensive mixed-style 'reproductions,' it is bound to come.

"The average dealer or decorator is not to be depended upon any more than the manufacturer to stem the tide of degradation in furniture production. He accepts what is offered and smilingly places it in the homes of his clients. We see photographs of this every day in the illustrated magazines. And the women, dear innocents, they don't know better than to receive the stuff into their homes and point to it with the pride of possession. Such is the lack of knowledge of fine old things, in spite of the so-called Colonial revival and much writing and research and setting the results before the people. The pity of it is that these things come to us insidiously in forms of beauty and in color borrowed from the truly artistic. They have not the qualities of loving labor or sincerity. It seems impossible to train the American public, ever on the lookout for novelty and display, that the introduction of such furnishings into the home makes for its degradation, artistically speaking, at least.

"Let us have metal furniture if our craze for the sanitary, or the scarcity of wood, or the need of fireproof belongings dominates the situation. But, instead of imitation of things of a day when furniture was art, let us have original designs suitable to metal, made up plainly as such, ornamented as metal should be ornamented, and used only where the reasons for its use are obvious if not absolutely necessary."



A Baker's Dozen of Old English Sugar-bowls

SOME of this goodly array of old sugar-bowls are of the same family tree as the "Baker's Dozen of Teapots," and are mostly Staffordshire bits. We can plainly see the two Mulberry Pagodas, the light blue "Picturesque Views" bowl, and the fine white china one with gilt decorations, all

Half an Acre in Half an Hour

With garden tools like those shown here with their many attachments for all kinds of special work, you can accomplish more in half an hour than in half a day by the old methods.

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See them on your local dealer's floor. Do it today. If he can't show them, a postal request will bring to you our set of booklets, profusely illustrated, and describing our complete line of garden, orchard and field tools. Write today.



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This is the kind of food for which The Chamberlin is famous, and the cooking—well, delicious comes far from adequately describing it. It's something that will linger in your memory long after other joys are forgotten. The daily menus are elaborate—the service

perfect in every detail—and no one ever stays at The Chamberlin without having an appetite. The invigorating Air, the Wholesome Recreation taken care of that.

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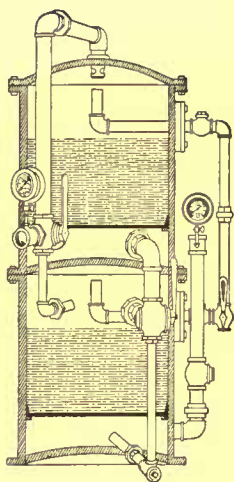
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of which have corresponding teapots among the Baker's Dozen of those articles.

The upper row of the cupboard starts with a white one with green floral band running around the center of it, with sprigs of the same design of flowers here and there on its surface. From the marking of the three dots on the bottom of the piece it seems to be the workman's mark of some of the Worcester pieces. A pink sugar-bowl follows with embroidery-like pattern on a white ground, the shape of the bowl being decagonal; the feet in shell design are attractive, and this together with the brown and white one next it, and the

ing this Adams bit is a bright blue and white sugar-bowl in the popular picturesque view design, so often found on the Staffordshire pottery. The dainty little round Canton piece comes in the middle of the lower shelf and is interesting for its very simple outlines, no handles, and blue mottled effect, white being used with the blue color and forming a plain part around the top of the bowl and a narrow ring around the knob.

The Adams fruit pattern, which distinguishes the next bowl, is a delight to the china hunter, and draws forth enthusiastic comment for its beauty of design of abun-



The artistic designs and coloring of these thirteen bowls render them particularly desirable. Flowers, fruit and landscapes are some of the subjects portrayed

blue and white "Picturesque Views" design on the bottom shelf, are the only three of the Baker's Dozen of Sugar-bowls which have feet. Beside it is a brown and white sugar-bowl which has an Oriental design of palm trees, chrysanthemums, little island homes and tiny Japanese figures on the cover and upper edge of the bowl proper. The fourth one of the first row is the fine white china bowl with gilt sprig decoration, while the second shelf comprises the "picturesque views" blue and white piece, the two Mulberry Pagodas and a flowing blue one, an Oriental design bearing the mark of Alcock (J and S).

The lower row begins with the choice Adams piece (impressed with the Adams name, warranted Staffordshire) — with charming design of flowers in a basket. No white background shows in this bowl, the surface being completely covered by the wealth of the floral pattern. Follow-

dant fruitage, for here again, as in the other Adams piece, the background is entirely covered over by the luscious-looking fruit. The floral border, the cover setting down deep into the top of the bowl and the dark blue coloring make it a treasure indeed.

The last sugar-bowl in the Baker's Dozen is in pink and white and has the oddity in its top border of having the fox in the chase printed upside down, as can be seen by examining the illustration. This topsy-turvy printing is seen in hunting scenes sometimes. The Master of Hounds can be easily discerned on his hunter in the foreground of the print. These thirteen designs have an intrinsic beauty besides an antique value, and may well be objects to be sought after by the amateur collector and lover of fine china ware.

J. R. C.

Two Model German Houses and Their Furnishing

(Continued from page 14)

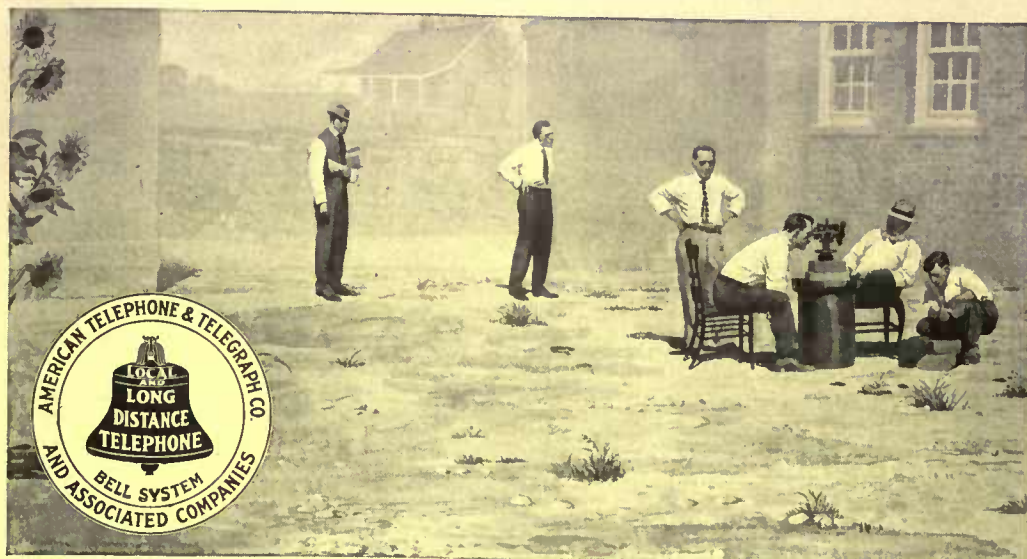
chandelier in the center of the room. The newest and the most popular variety which is inexpensive and can be made by the amateur, is that constructed with a brass hoop, suspended by brass chains and covered with a hemstitched or bead-edged frill of some sheer, white goods.

Save in the best of rooms, where there are inlaid floors, the floors are painted with many coats of paint or varnish to match the wood of the furniture. A small rug before each bed for the comfort of cold toes in the chilly morning is all that is provided for the bedrooms; cocoa-fibre and grass rugs in the dining-room and a close weave rug in the others are used in preference to more woolly ones, with the contention that they are more hygienic.

The furniture is made in accordance with the measurements of the average person. Chairs are of a height and depth that will allow most users to sit in them comfortably, using the back as a support and placing the feet on the floor. The sofas are broad enough to lie upon without the risking of a tumble, mirrors suspended low enough to be used without the aid of a stool and pictures hung on the level with the eye.

Notice the finish of the windows. The stores cover only the lower part, thereby discouraging the curiosity of neighbors and inviting the light and the warmth of the sun. On the broad sill stand the flowers and beneath it hides the radiator! Though no one would care to defend the beauty of the steam radiator, few have tried to do anything but wink the other eye, thinking, no doubt, that to ignore it is to mitigate its ugliness. But the German who was willing to let a clumsy "Kachelofen" take up the greater part of the available space in a room, has drawn the line at the unsightly coils of illuminized or gilt iron which we tolerate as heat-dispensers, and has invented a countless variety of devices for its disguise and elimination. In these pictures one can see the wooden grating, painted to match the rest of the woodwork and the coat-of-mail—a sort of curtain made of sheet-brass plaques linked together with tiny brass chains. Judging from the comfort of the German houses, the radiators give off all the necessary heat when so disguised and suppressed; the suspicion that they may have better radiators may be set aside by the fact that most of them are imported from this country.

A variety of designs and a profusion of color prevent these rooms, furnished as they are with only the barest necessities and in the simplest form possible, from becoming too stiff, cold or austere in their effect. If there is a plain colored wall, then there is a pattern introduced in the upholstery, there is a galaxy of gay flowers on the cushion-tops and table-covers and vases and bowls made of many-colored crockery. When the wall is hung with a



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"The Center of Population"

A Title that Fits Every Bell Telephone

From the census of 1910 it is found that the center of population is in Bloomington, Indiana, latitude 39 degrees 10 minutes 12 seconds north, and longitude 86 degrees 32 minutes 20 seconds west.

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paper of uncertain design as in the dining-room shown on page 12, the curtains, covers, vases and other furnishings are usually unicolored. In the young girl's room on page 13 the brightness of color is all in the woodwork, which is a vivid apple green. The wall is white with a tiny border of green leaves; a fuzzy rug, the curtains, the chandelier and bed-covers ruffles are also white with a tiny border of green. Similarly, in the Bertsch house, we find the woodwork of the entire hall a bright Yale blue, and the walls a vivid yellow. It is cheery, quite true, but whether the effect is not wearing like a perpetual smile, is a moot question, as no one has yet tried to live in the model houses!

Radical as the leaders of this new school may be, and irreverently as they seem to deal with tradition, they have yet carefully guarded the institution nearest and dearest to the German heart—the table set invariably and squarely before the sofa. The seat behind this table is always the seat of honor—perhaps because it is the most difficult to reach—and every one knows that to do away with it were to upset the whole structure of German society. The members of the new school are radicals—not revolutionists.



The Airedale

(Continued from page 4)

unless his general qualities were of the highest kind.

The breed as now accepted by the kennel associations is somewhat heavier than in the days when it was unknown outside of the Midlands. A good specimen should weigh in the neighborhood of forty-five pounds and be about as tall as an ordinary Llewellyn setter. The body is short, with well-arched ribs and deep but narrow chest, giving plenty of room for the lungs. The shoulders are sloping and their every line is indicative of supple power; forelegs perfectly straight and the feet compact and well padded. The hind legs should be strongly muscled, but by no means "bunchy." Skull wide, but rather flat, with small, dark eyes and little V-shaped ears set rather high. The muzzle is long, strong and firm and the teeth large.

The Airedale is a wire-coated dog, with hard, stiff hair that is about an inch long, except on the head, where it is shorter than elsewhere. Beneath this outer protecting coat there is a warm underbody of soft, thick wool. His color is a uniform deep tan all over, with the exception of a patch of black or dark gray across the back like a saddle. The double coat was a strong asset to the Airedale in the sort of life for which his originators intended him, for it is a great protection against water, cold, briars and teeth. He will jump into creek or pond, swim across, take a couple of shakes and a roll in the

(Continued on page 68)



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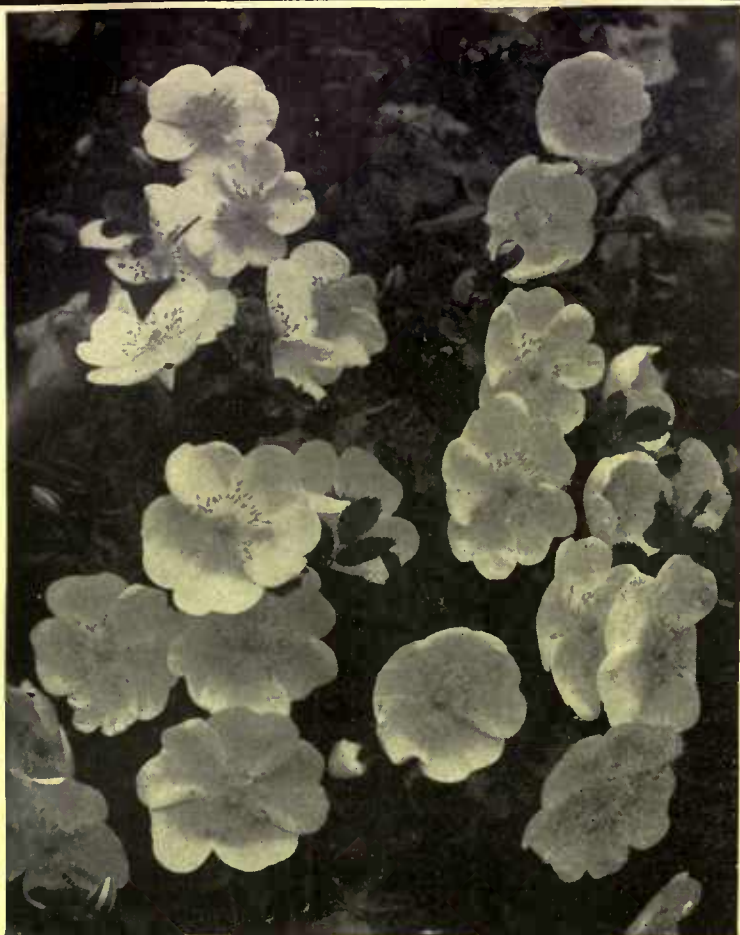
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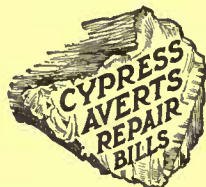
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"CYPRESS is put to almost every use as an interior trim for houses.....natural color or stained.....contains little resin.....thus affords a GOOD SURFACE FOR PAINT, WHICH IT HOLDS WELL..... popular.....for kitchens, where it is subjected to dampness and heat..... shrinks, swells or warps but little.....For the parts of houses exposed to the weather it serves equally well. AS SIDING IT PRACTICALLY WEARS OUT BEFORE IT DECAYS.....made into porch columns it retains its shape, holds paint, and has sufficient strength.....It is placed as cornice, gutters, blinds.....and railing, and is much used for Porch Floors and steps..... Much CYPRESS lumber is employed in the construction of SILOS..... The FARMER puts the wood to many uses.....ITS LASTING PROPERTIES FIT IT WELL for curbs..... Resistance to decay fits it for stable floors and timbers near the ground, as well as for.....gates, and especially for fence posts.....one of the best available woods for picket fences, because it shows paint well and holds it for many years, but lasts a long time without it.....widely used for this purpose.....in regions remote from its range..... It is PRE-EMINENTLY FITTED for (greenhouse construction).....where it is called upon to resist dampness, excessive heat, and all the elements that hasten decay.....sash, frames, benches, boxes, and practically all else.....the builder needs.....Agricultural implement manufacturers make seed boxes of it, wagon makers.....for beds.....carriage builders and automobile makers work it into panels for fine bodies..... Its slight tendency to warp has caused its employment for incubators.....freight-car siding.....many builders of gasoline launches are said to be using Cypress exclusively for hull planking.....makes handsome church pews.....Telephone boxes and switchboards of CYPRESS are coming into use.....spools.....beehives;.....seine floats;.....tables.....curtain poles;.....patterns;.....shelving and counter tops;.....shims;.....tool boxes. CYPRESS has been substituted for white oak for wine barrels.... The same.....freedom from taste is claimed for it by pump makers, who recommend it for that reason," (etc.)

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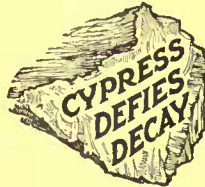


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A BEAUTIFUL PLANT BOOK PRINTED IN COLORS—FREE

You need this book whether you have a city lot or a large country home. Suggests new and unusual trees, shrubs and old-fashioned garden flowers which will make your garden distinctive.

Meehans' Trees and Shrubs

are vigorous—hardy—dependable growers. Fifty-eight years of horticultural experience has taught us what is most artistic and practical. Be sure to get this valuable book—a request brings it.

THOMAS MEEHAN & SONS

Box No. 40,

Germantown, Penna.

(Continued from page 66)

grass when he comes out, and be dry again. Similarly, he will come through a long tramp or hunt in the woods and tangled thickets without a scratch from thorn or branch, and be ready to start right out and do the same thing over again.

A rough-and-ready dog like the Airedale is not one to be pampered and treated like a hothouse plant. Remember that by birth and breeding he is a hardy fellow, intended originally to be an all-around country dog, accustomed to open air, hardship and plenty of exercise. But do not go to the other extreme and neglect him just because he is tough. Every dog is entitled to dry, clean sleeping quarters, plenty of fresh drinking water and wholesome food, a bath every two or three weeks, and a daily grooming with comb and brush. A healthy Airedale—and few of them are anything but that—can perfectly well sleep out-of-doors all the year round if he is provided with a draughtless shelter and a plentiful supply of good straw bedding. Artificial heat of any sort in the kennel is unnecessary; indeed, the dog will be much better off without it. Treat him frequently with large doses of common sense, and you won't often have to call in the veterinary.

In spite of his large size, the Airedale is a true terrier and readily adapts himself to any climate and any task. He has hauled sledges in Alaska, and hunted mountain lions in the Rockies and criminals in Europe. He will tackle a wildcat in a Florida savannah just as eagerly as he will snap a mouse or rat in the feed room of your stable. He has the constitution of a piece of armor-plate and the heart of a gentleman. The place for him is in the country, for first, last and always, the typical Airedale is "all dog."



Some Precautions Against Fire

It is a sad commentary on American methods of building, American laws concerning building, and the American habit of carelessness that defective flues should be responsible for twice as many fires as any other known cause. It is estimated that 13 per cent. of the total number of fires annually can be attributed to defective flues, with an average property loss of about \$13,000,000. The destruction of the cotton compress at Laurel, Mississippi, on December 16, 1910, with a loss of over \$300,000, was due to a little brick-on-edge flue through the cracks of which sparks spread to the property. The money lost in this fire would have paid for the removal and rebuilding of every bad flue in the State of Mississippi. Carelessness in the construction of flues has become so general in the south that the insurance companies have been forced to penalize dwellings with improperly constructed flues. In most of the states the charge is 35 cents for each defective flue in the dwelling. This increase should attract the attention of property owners.

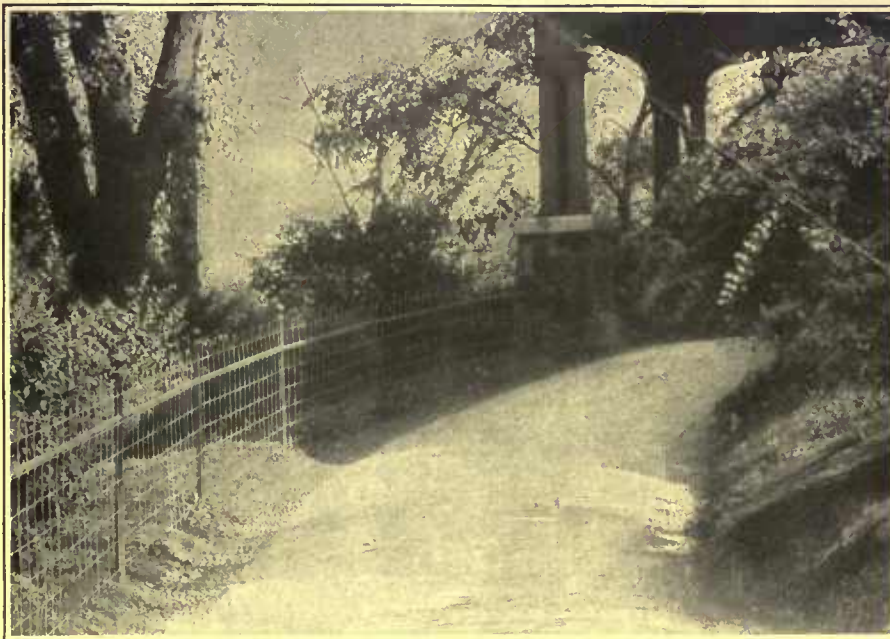
EXCELSIOR "RUST PROOF" WIRE FENCE

Flower Bed Guards, Tree Guards and Trellis

A FENCE should be something more than a mere barrier. It should be the frame for the house or garden. It may be plain or elaborate, as the taste of the owner or the particular requirements demand. Wooden fences are now obsolete, and wire fences are universally used.

EXCELSIOR Rust Proof Wire Fencing differs from ordinary wire fences very greatly. It is "weather proofed" after being made. This galvanizing process adds 15% to the weight of the fabric and 50% to the lasting qualities. It does not require painting and is easily erected.

YOU can use Excelsior Rust Proof Wire Fence with metal drive posts, wood posts or wood frames. It is made in a variety of patterns for all purposes. The same material is also made into Trellises, Flower Bed Guards and Tree Protectors.



FIRST of all, write to us for an illustrated catalog describing Excelsior Rust Proof Fence and its various uses. Select the pattern you want and then get your hardware dealer to order for you. Special contracts made from the factory for fencing parks and large estates.

WRIGHT WIRE COMPANY, Worcester, Mass.

33 W. Michigan St., CHICAGO, ILL.
256 Broadway, NEW YORK CITY
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420 Commerce St. PHILADELPHIA, PA.
125 Summer St., BOSTON, MASS.
5 First St., SAN FRANCISCO, CAL.

I Measure the Value of a Rose Plant By Its Vitality

Size alone, in a rose plant, counts for little. The *successful* Rose must have *within it* what I call "plant character"—a rugged, sturdy vitality that comes from careful and intelligent breeding. Not only must the plant that you get, be right, but it must be propagated from a long line of other plants that are right, too.

There are a few places in the country where Roses thrive *exceptionally well*—and my nurseries are located in one of them.

Why This Section Is Ideal for Rose Culture

We have fairly warm summers and winters cold enough to check all growth, making it easy to transplant them anywhere. *But we have a very long growing season;* that enables me to put more



growth and vitality into a plant of a given size, than is possible for growers in colder climates, though my plants are as hardy as any, and will transplant just as successfully. One of my Fairfax Roses in two- or three-year size is larger and better developed than one produced where the growing season is shorter.

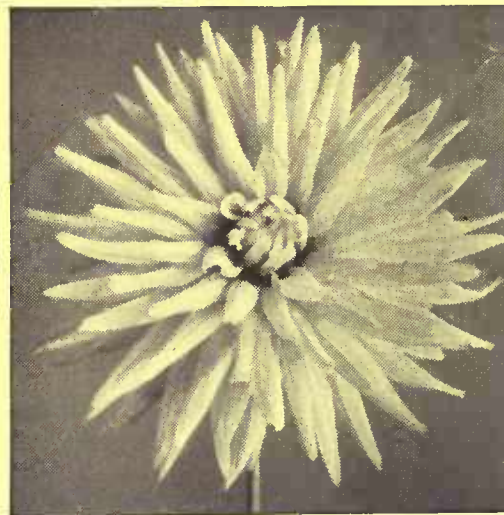
I am growing nearly 150 varieties of roses—all leading groups and classes. Every variety is *reliable*—as my customers in every state in the Union and in many foreign countries have learned.

MY BOOK "FAIRFAX ROSES" FREE IF YOU EXPECT TO BUY

It lists, describes, and illustrates Roses fully and accurately. There are also complete descriptions of Dahlias, Chrysanthemums, rare Ferns, Bedding Plants, etc. I shall be glad to send you a copy.

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Seeds, Bulbs, Plants FOR YOUR GARDEN

The Newest in Flowers. The Newest in Vegetables. The Best in Spring Flowering Bulbs. Ornamental Shrubs and Fruit Trees. Perennial Plants and Sundries for the Lawn and Garden.

This Garden Manual is an addition to any collection of reference books. Write us now and we will mail our seed annual free.

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Plant for Immediate Effect Not for Future Generations

Start with the largest stock that can be secured. It takes many years to grow such Trees and Shrubs as we offer.

We do the long waiting---thus enabling you to secure Trees and Shrubs that give an immediate effect. Spring Price List gives complete information.

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WM. WARNER HARPER, Proprietor H. PHILADELPHIA, PA.

**Hardy Plants
For Cold
Winters**

HORSFORD'S

Try a few now, and flower seeds too, and see how well they do. My new catalogue offers a long list of kinds that have stood many Vermont winters. Hardy plants, shrubs, trees, vines, etc. Wild Flowers, hardy Ferns, Lilies. Write for copy now. F. H. HORSFORD, Charlotte, Vt.

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Color Schemes Planned and Executed
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New York



This beautiful home in Scarsdale, N. Y., must be sold to settle an estate. Six bedrooms and three baths on the second floor, large hall and living rooms on the first floor, unique garden room with glass front on to formal garden, toilet, servants' sitting room and laundry on ground floor, 100 ft. front, nearly half an acre on the corner of Old Orchard Lane and Church Lane, in the older section of Scarsdale. Two other interesting homes at Executor's sale. A large list of suburban homes in Westchester County.

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Scarsdale, N. Y. 7 E. 42d St., New York
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This delightful house, with seven rolling acres and garage, tennis courts and gardens. Reasonable rate.

The location is the open country, as high, secluded, quiet and healthful as though far distant from the city. Fifty minutes to Wall Street.

Make early application to

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AN ANNOUNCEMENT

The 1912 edition of

"A Little Book About Roses"

is bound in an embossed colored cover by Stillson, representing the acme of the engravers', printers' and paper makers' art. In beauty of color and chaste elegance I have never seen anything to equal it, and besides it is the most helpful and inspiring of anything of its kind yet attempted.

It's the story of a successful enthusiast who for ten years was an amateur himself and it possesses a charm and individuality which will delight—a frankness which will win you.

Mailed free to customers and intending purchasers—to anyone, without obligation to purchase, for ten cents in coin or stamps.

GEORGE H. PETERSON,

Rose and Peony
Specialist

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Fair Lawn, N. J.

For a Most Beautiful Lawn

Sow **KALAKA**. It is specially selected, specially tested grass seed, and pulverized manure—the ideal combination to grow quick, hardy, lasting turf. For seeding new lawns or putting new life into the old lawn nothing equals

KALAKA
Fertilized grass seed

Packed in 5 pound boxes at \$1.00 per box, express paid cost, or \$1.25 west of Omaha. Write and ask for prices on special mixtures for special locations and purposes. Order today and have the best seed money can buy. Get our free lawn book.

THE KALAKA CO., 16 Union Stock Yards, Chicago

A LITTLE GREEN BOOK FOR THE FLOWER GARDEN

With Price List of Selected Seeds

Paul Dove, Wellesley, Mass. **COPY FREE**

HOWARD Dustless Duster

(25 Cents Prepaid)

Makes possible a dustless home. Write for our Dust Book "A" and small free sample.

It will show you how to make dusting a pleasure, how to dry clean a silk skirt in five minutes, how to clean windows in a twinkling, to polish pianos and highly finished furniture, to make cut glass sparkle like diamonds, to make an old derby look like new.

"No Oil to Soil"
Money back if not satisfactory

HOWARD DUSTLESS DUSTER CO.
164-43 Federal Street, Boston, Mass.

HOWARD

DUSTLESS DUSTER

Raising Poultry for Profit

SO much is printed about "the wooden hen" nowadays that the amateur is likely to be discouraged at the outset and form the opinion that he cannot raise chickens at all without incubators and brooders littered all over the place.

Now, in point of fact, the old-reliable hen is doing business at the same old stand, and is just as anxious as she ever was, when springtime approaches, to be permitted to mother a brood of chickens. She can do it, too; for I believe that the females of some of our newer breeds really excel the old Brahmas and Plymouth Rocks as mothers of families. They seem to have more sense, which isn't a great deal, to be sure, but enough for us to utilize.

Any able-bodied person who is strong enough to carry a peck of corn or a bucket of water and who has an hour to spare in the morning and another hour to spare before sundown, should be able to care for fifty hens, and to raise from them any number from fifty to two hundred chickens, between the first day of March and the last day of May, with no help from brooders or incubators, and with no fancy coops or expensive outfit. I have done it myself more than once, and I refuse to believe that my strength or intelligence is at all above the average.

If you have no stock of hens on hand, it is best to wait until about the first of March to buy them. The reason for this is simple enough. Many persons who have kept a small flock of hens—twenty to thirty—move about the first of March to some place where they cannot keep them and consequently they wish to sell out. Such a flock has been carefully tended, is free from disease, is usually well bred and desirable. Since the sale is a forced one, the price is usually low, anywhere from fifty cents to a dollar apiece. Such a flock will be composed largely of last season's pullets, and is well worth buying.

With a flock of forty-five or fifty hens, you should have two good, well-marked, well-bred cockerels. They will fight, of course, but not often nor for long. They will keep their respective places when once they have settled the question of supremacy. If you have to buy new cockerels do not set any eggs until they have been with the flock for at least two weeks.

Do not set any hen until you have more than one wanting to sit, and try them on china nest eggs before giving them the real article. The plan for sitting hens which has proved successful with me is very simple and easily followed.

One end of my long coop is partitioned off from the rest by lathing. The width of the coop, fifteen feet, makes its length. It is six feet wide. It contains one window and a door opening into the main coop. This compartment is used as a place of retirement for sitting hens while they are in process of being "broken up." During the spring all the hens are encouraged to sit, and I use this for their sitting room.

(Continued on page 58)



POULTRY DEPARTMENT

The purpose of this department is to give advice to those interested in poultry. The manager will gladly answer any troublesome questions. Address "Poultry Department" and enclose a self-addressed envelope.

RABBITS AND PET STOCK

Unrivalled Flemish Giant, Angora Tan and Polish Rabbits—Peruvian and Smooth Cavies for fancy or pets. SOME GOOD YOUNGSTERS NOW FOR SALE, \$1.00 up.

Elm Cove Rabbitry, Great Neck, L. I.

LEONTINE LINCOLN, JR.

BREEDER of white crested black polish, silver bearded polish, Owens Farms, S. C., White Orpingtons and fancy pigeons; a few cockerels in above varieties for sale at reasonable prices; eggs for hatching in season; I have 9 Black Orpington pullets and 2 cockerels. Owens Farms stock, \$20 for the flock. 289 Bank St., Fall River, Mass.

Columbia WYANDOTTES White ORPINGTONS—WHITE

Exhibition qualities with record of 197 Eggs Watch my birds at Egg Contest.

CHICKS—EGGS—STOCK

Walter R. Rich, 651 Clark St., Westfield, N.J.

WHITE LEGHORNS IMPERIAL PEKIN DUCKS

still in the lead. We are breeders of the best strain of Single Comb White Leghorns in America, also Imperial Pekin Ducks. Eggs from selected breeders S. C. W. Leghorns, \$6.00 per 100; \$1.50 per 13. I. M. P. Duck eggs, \$8.00 per 100; \$1.50 per 11. Also choice Single Comb Rhode Island Red and Barred Rocks (Thompson Strain direct), eggs \$8.00 per 100; \$1.50 per 13. A few B. R. and S. C. W. Leghorn Cockerels at right prices, also Baby Chicks and Ducklings.

BONNIE BRAE POULTRY FARM, New Rochelle, N.Y.

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HANDSOME CATS AND KITTENS FOR SALE—



Domestic and rare foreign varieties. Siamese, Abyssinian, Manx, and Russian. Ideal boarding place for cats, dogs and birds. Model Poultry department, supplies broilers, fowl and squab.

Write for beautifully illustrated catalogue and sales lists.

BLACK SHORT HAired CATTERY Oradell, N. J.



Genuine Chihuahua

—smallest, daintiest of all dogs; weight 3 to 5 lbs. An ideal pet for women. Very affectionate and faithful. Large, pleading eyes and intelligence almost human. Perfect proportions.

NOT the "hairless" breed

I personally select finest from native Mexican raisers and sell direct to you at half prices asked in east. Write today.

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Why not learn the improved methods of intensive scientific agriculture at home? You should learn all about our fine proposition. Faculty and Courses—Truck, Small-Farm Course, General Farming, Poultry, Fruit, Stock, etc. Write today which line of farming interests you and get particulars and Valuable Booklet Free—"How to Make the Farm Pay More" More profit for the farmer. A safe way out for the city man, or woman. Students the world over. Easy terms. American Farmers' School, 133 Laird Bldg., Minneapolis, Minn.

For Sale--Commuter's Farm

At BERNARDSVILLE, N. J.

Small acreage, less than two miles from station, ample buildings in good condition. Old fashioned 10-room farmhouse, running water, open plumbing and modern improvements. Fruit, nut and shade trees. Spring garden in planting. Squabs, poultry and eggs for home and market. Address FARMSTEAD, Basking Ridge, R. F. D., N. J.

Russian Wolfhounds

The Best Dog in the world and one of the Rarest Breeds extant. Peerless in beauty and reliability of disposition. Companions for gentlemen, ladies or children.

CATALOGUE "H"

Mirasol Kennels

Pasadena, California



AIREDALE TERRIERS

The best all round dog and companion

Our Terriers are blue ribbon winners at New York, Boston, Pittsburg, Chicago Kansas City and other large shows

Puppies for Sale, \$25 and Up. Champion Red Raven at Stud. Fee \$20. The greatest living sire

Beautiful illustrated booklet for stamp ELMHURST FARM KENNELS Sta. E. KANSAS CITY, MO.



White Scotch Collies FOR CITY, SUBURB or COUNTRY PLACE

Mothers trust Collies because they are brave and kind guardians of the children and home. Fathers favor Collies because they are hardy, active, intelligent and strong playmates for boys and girls of all ages. Outdoors men! Farmers prefer Collies because for hundreds of years they have been the leading cattle and sheep dogs; save labor, therefore money-makers. Ladies admire their beauty, grace, affection and general aristocratic air. Little girls love their gentle ways and sensitive disposition. Boys swear by them because they are "ALL Dog All the Time." Tramps and thieves fear them. They are the center of admiration at the Kennel shows. A good, well bred female will raise from \$100 to \$200 worth of puppies every year. Our stock is northern grown, country raised, hardy and healthy with beautiful dark, appealing brilliant eyes, correct ear and tail carriage, magnificent coats and have the true "Collie Expression." Pedigree stock only. Prices cheap. Remember the White variety is very rare and unusually beautiful.

ISLAND WHITE KENNELS, OSHKOSH, WISCONSIN

Buzzards Bay and Cape Cod

THE COOLEST SPOT ON THE MASSACHUSETTS COAST DURING THE HOT WAVE OF 1911

FURNISHED HOUSES FOR RENT AND SALE

:: :: :: EASILY REACHED FROM NEW YORK BY STEAMER :: :: ::

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Poultry Department

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Our Barred Plymouth Rocks

LAST Fall we purchased all the Barred Rocks of the "PINE TOP POULTRY FARM." They have behind them twelve years of careful and skilful breeding. There are about five hundred splendid females, besides cocks and cockerels that rank among the best.

Mr. Newton Cosh, who was with Gardiner & Dunning, of Auburn, when their Barred Rocks were unsurpassed, and who went from there to the "Owen Farms," has accepted the position of Manager here. Mr. Cosh has bred some of the best Barred Rocks ever shown.

Mr. Cosh has mated our pens for 1912 and we believe we shall produce better birds than ever. We have enough so that we can sell eggs for hatching from any or all of our pens. \$3 for fifteen eggs—\$15 per hundred.

This is our offer for our first year in Barred Rocks. We don't believe you can get YAMA quality for that price anywhere else. Even if you only want utility birds, why not have good ones at such prices—fine, even barring, way to the skin?

Send for catalogue; we don't issue a big one but what we say in our little one is straight.

YAMA FARMS

NEWTON COSH,
Manager Poultry Department
Yama-no-uchi, Napanoch, N. Y.

References: Security Bank, New York
First National Bank, Ellenville, N. Y.

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THE HALL MAMMOTH INCUBATOR CO.

Manufacturers of the
ORIGINAL HOT WATER

Mammoth Incubator and Brooder



In another month the hatching and brooding season will be here. Are you prepared for it? If not, there is time to fill your order for a HALL INCUBATOR having a capacity from 1,800 to 20,000 eggs. Spring brings delayed transportation and bad roads. Immediate shipment will avoid delay, disappointment, loss of time and money. You can get out your early chicks for Fall layers and sell "day olds" to many customers. A great money maker, isn't it?

Place your order NOW We will ship PROMPTLY

How about YOUR brooder?

Experimenters prove that the fumes of burning oil in a brooder house reduce the vitality of the chicks 50%. This means sickness, diarrhea or death of a very large percentage of your chicks. With the Hall System the air of the brooder house is kept pure and wholesome. The HALL System of heating and ventilating supplies pure, warm air just where the chicks want it—on their backs. No crowding; just normal development under conditions which produce maximum results in strong, hardy, active and livable stock.

The Hall Brooder Systems are made both double and single. The adjacent cut shows a double system: i. e., one single system placed on each side of a central alley; also how the systems are constructed.

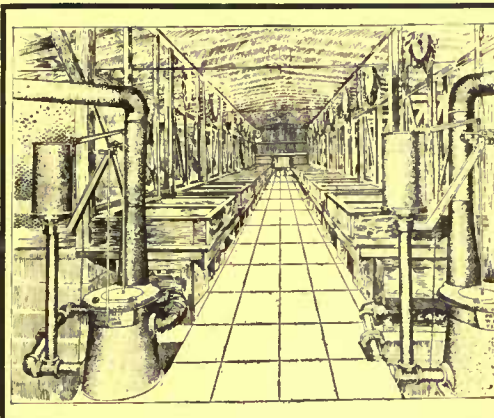
Observe that the hovers are placed in the alley so that feeding, watering, etc., is done without entering the pens. This saves time, labor and cost. By raising two slides the pens and hovers (in ten minutes) can be cleaned and new litter put in. More than 50 per cent. of time and labor is saved.

The Hall chick-saving brooders are run by the Hall Self-Regulating Furnaces—powerful, low-priced hot-water heaters, burning anthracite coal.

These statements are verified by years of actual experience in use by enthusiastic customers.

The lives of your chicks year after year depend upon correct brooding; this the Hall System gives.

Send for free descriptive catalogue
"Fact and Argument."



Hall Hot Water Brooder System

THE HALL MAMMOTH INCUBATOR COMPANY, LITTLE FALLS, N. Y.



White Orpingtons

They lay like slot machines. My birds have won at Madison Square, Pittsburg, Cleveland, Buffalo, Chicago and other large shows. New catalog free.

Lawrence Jackson

Haysville, Allegheny Co., Pa.

G. D. TILLEY NATURALIST

You may possess a beautiful pair of birds that will be the attraction and admiration of your neighborhood and be a constant delight and recreation to you at small cost.

I am the largest exclusive dealer in Land and Water Birds in America.

Write for particulars.

G. D. TILLEY Darien, Conn.



Baby Chicks of Quality

Guaranteed to reach
you in good condition

You can't count your chickens before they are hatched; so why bother with setting hens and incubators? Let me assume all the risk. I will send you by express, healthy, sturdy Fishel Strain White Plymouth Rock Baby Chicks, utility or exhibition; also Fishel White Indian Runner Baby Ducks. Order now, as winter hatchings are the most vigorous. Prices reasonable and satisfaction assured. Send 6 cents for my splendid chick catalog.

R. C. CALDWELL

Box 1030, Lyndon, Ross Co., Ohio

MAMMOTH IMPERIAL PEKIN DUCKS

RAPID GROWERS

LARGE LAYERS

Afton Farm is foremost in Pekins. Its strain is the fastest growers and biggest layers. A flock of 500 hens laid last year 74,529 eggs, or an average of 149 eggs per hen! Its ducklings dress 10 pounds per pair at 10 weeks old!

AFTON FARM WON AT THE BIG SHOWS:

AT NEW YORK AT PHILADELPHIA

1st on Old Duck	1st on Old Duck
1st on Young Duck	1st on Pen of Ducks
2nd on Young Drake	2nd on Young Duck
2nd on Pen of Ducks	3rd on Old Drake
4th on Old Drake	4th on Young Drake

Get your stock of Afton Farm Mammoth Imperial Ducks. It is the quick growers and big layers that make money. Remember, the AFTON FARM strain wins the prizes, tops the markets and is a big laying strain. They are always healthy and vigorous.

AFTON FARM

BOX D-14

YARDLEY, PA.



Poultry Department

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DON'T BUILD

See how little money it takes to get a Potter Portable Fresh-Air House; ready-made coops, hoppers, fountains, vermin-proof roosting and nesting fixtures. Houses made of Red Cypress flooring, painted two coats complete with all fixtures. See house and fixture illustrated above. Book mailed for two red stamps.

Potter & Company, Box E13, Downers Grove, Ill.

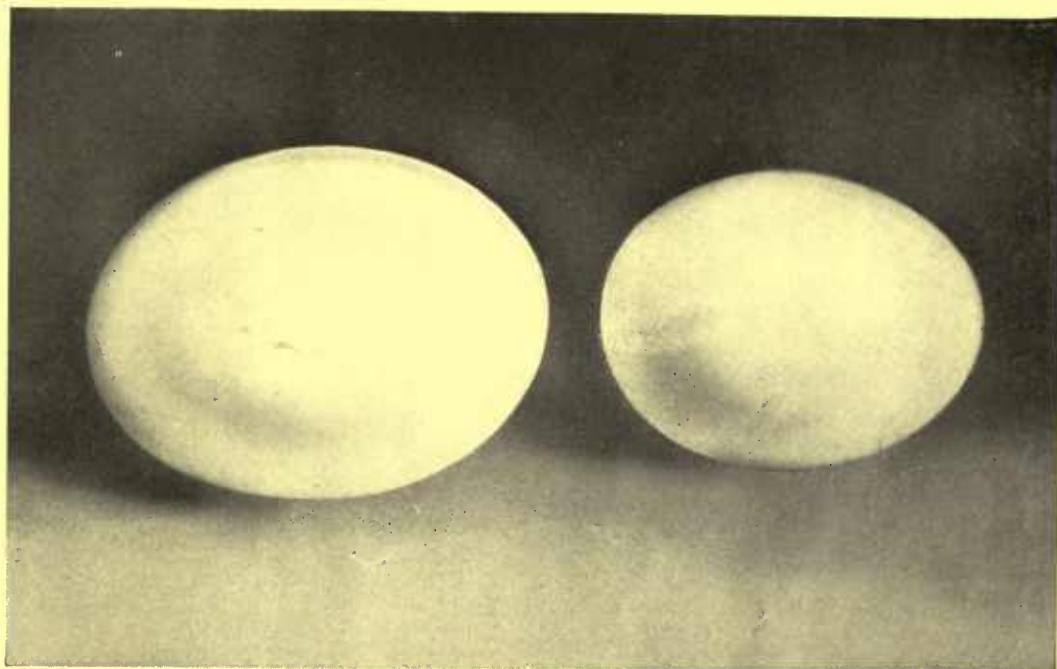


Do you want to produce on your farm the largest hen's eggs known?

Yama Black Minorcas

will do it

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From a photograph of an average Yama Black Minorca Egg. 34 ounces to the dozen.

From a photograph of the average first-class egg. 24 ounces to the dozen.

SWANS Stately Royal Birds



I sell only ADULT Royal Swans of England, of breeding age, which will breed. I do not handle the inferior continental birds, of immature age, and most of which have been exposed to render them infertile, unknown to the buyer. I can refer intending purchasers to dealers who have procured birds from me in the past and who have begged me to BUY THEM BACK because they have been OVER-RUN WITH THE PROGENY.

DR. CECIL FRENCH, Zoologist, Washington, D. C.

DAY-OLD CHICKS S. C. WHITE LEGHORNS

Hoff's Day-Old Chicks Are Hatched Brim Full of Vitality, and Are Bound to Live and Grow.

My stock is bred for big egg production, as well as exhibition type, and is noted for heavy laying of large, white eggs that bring top prices. I have had more than 20 years' experience in artificial incubation, and by closely studying the breeding and hatching, under the most sanitary conditions, I am able to produce

Chicks Free from White Diarrhoea

I also have S. C. White Leghorn eggs for hatching. Write for my reasonable prices on chicks and eggs. D. C. R. HOFF, Lock Box 152, Neshanic Station, N. J.



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Book and Calendar for 1912 contains 200 pages. 72 varieties pure bred, 62 colored plates. Many other illustrations, descriptions, incubators and brooders. Low prices on all stock and eggs. How to raise and make hens lay. Get my plans. All say it's great—this book—only 15c. Price list free.

B. H. GREIDER, - - Box 70, Rheems, Pa.

Maplecroft S. C. Rhode Island Reds

Won New York 1911, 5th Cock, 4th Cockerel, 4th and 5th Pens and 1st, 4th, 5th PULLET, also Shape Special on Pullet. High class utility layers and choice breeding stock for sale. J. G. Dutcher, Prop. For circular, address:

Maplecroft Farms, Pawling, N. Y.

Established 1875

SWANS PHEASANTS, CRANES FANCY DUCKS

Poultry and Supplies

William Bartels Co.

Now 160 Greenwich St., N. Y.
After May 1st, 42-44 Cortlandt

SOME YEARS AGO WE WERE PERHAPS WHERE YOU ARE TODAY—what kind of chickens to keep—and where to get a start with the right kind. We have tested seven varieties, have had our experiences—and for eggs *Black Minorca*. They have all the good qualities of the egg laying varieties of chickens (non-setters, etc.) and the size of the birds themselves makes them more desirable for the table than the usual small egg layers. They have one of the longest breasts of any variety, which insures an extra amount of white meat.

Yama Black Minorcas are the Aristocrats of the Poultry World

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Photo by Floyd E. Baker

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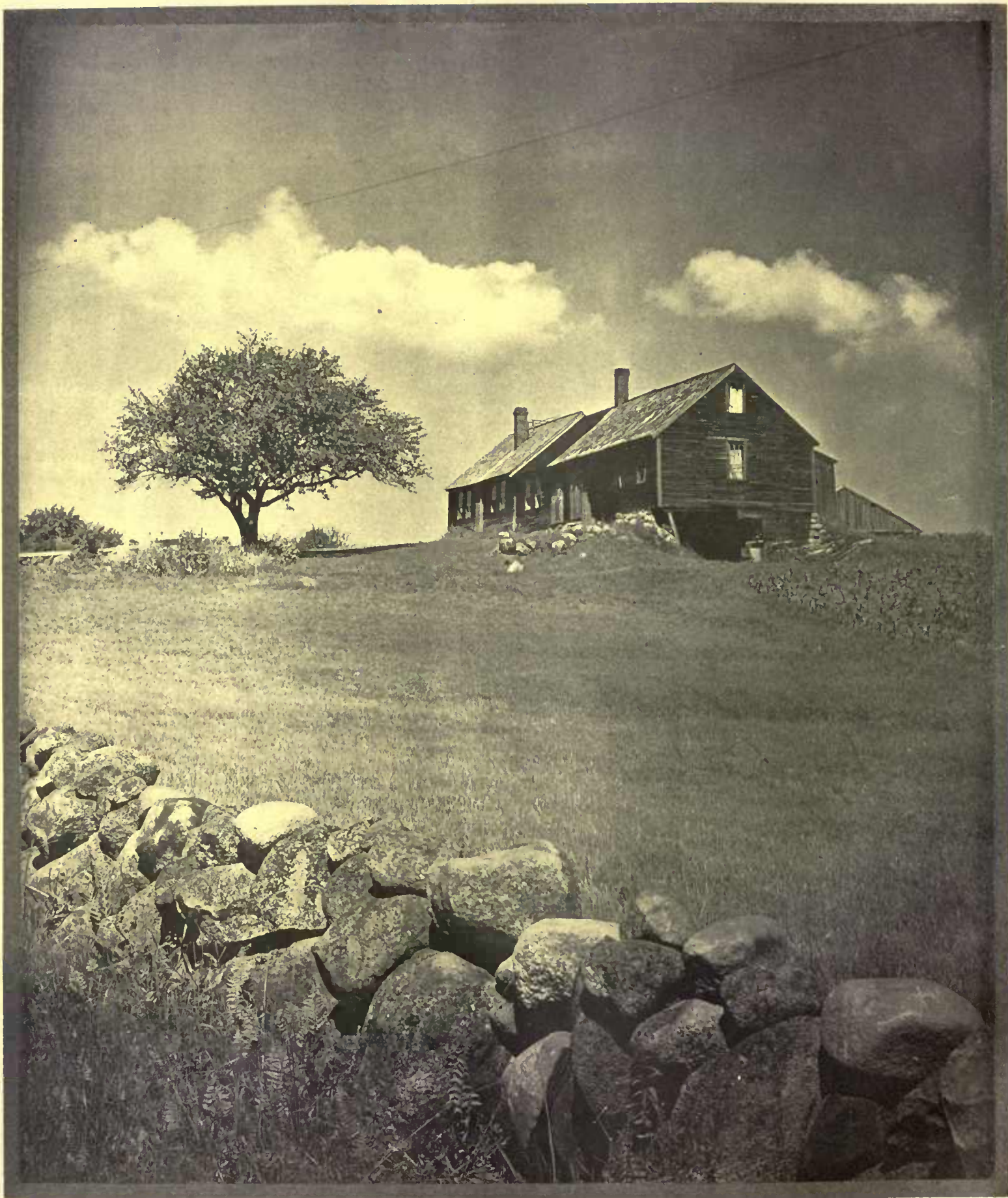
HENRY H. SAYLOR, EDITOR.

McBRIDE, NAST & CO.

31 EAST 17th STREET, UNION SQUARE, NORTH

NEW YORK CITY

Robert M. McBride, President; Conde Nast, Vice-President; Robert F. MacClelland, Secretary; Henry H. Saylor, Treasurer. Published Monthly. 25 cents per Copy. \$3.00 per Year. For Foreign Postage, add \$1.00; Canadian, 50c. Entered as Second-class matter at the Postoffice, New York, N. Y.



In many parts of New England the once thriving farms are now abandoned and falling into decay, for the sturdy men who built them have gone away to other activities or different places. Yet the call of those rolling hills and fertile meadows is just as enticing as ever to those who care to hearken to it



The Spanish Mission Style of House

THE ARCHITECTURAL STYLE THAT IS BEING DEVELOPED FROM THE OLD SPANISH MISSIONS
—FOREIGN INFLUENCES AND EASTERN IDEAS THAT GO IN TOWARD MAKING THE NEW TYPE

BY GEORGE C. BAUM

[The problem of choosing an architectural style for the American country or suburban home is one of the most puzzling that confront the home-builder. In order to bring about a better understanding of the more common types and with the idea of clarifying, as far as possible, this whole matter, we have asked a number of prominent architects to present each the case for one particular style. In previous issues the characteristic features of the Colonial, Dutch Colonial, Half-timber, English Plaster, Chicago School of Architecture, Swiss Chalet type, the so-called Northern Tradition, and the Tudor style were developed and illustrated at length by prominent architects interested in each of these types. The present article is the last one of the series.—EDITOR.]

THE words "Spanish Mission" bring to the mind but one thought,—a group of buildings scattered over Southern California. The buildings and the location seem to be synonymous; the one suggests the other. Instantly the mind pictures a warm and sunny climate, a group of palm and magnolia trees, in the shadow of which nestles a low and rambling building, covered with vines and rose bushes. Charming! we exclaim. Yes, charming beyond description. California, the land of sunshine and roses, and, as Stoddard says of Southern California, "we think of it, and love it, as the dreamland of the Spanish Mission."

The Spanish missionaries coming up from Mexico were the first to settle in California, having as their ambition the conversion of the Indians. They began their enterprise with rude adobe huts, but as they became prosperous and successful, these huts gave way to extensive buildings, constructed in the form of a quadrangle, surrounding an inner court. The best examples can be seen in the remains of Santa Barbara, San Juan Capistrano, San Fernando Rey, Carmel, San Gabriel, San Luis Rey and San Miguel.

This mode of building around an open space, forming an inner court or patio, was brought over with the Spaniards from their native land.

It was just the style of building best adapt-



A Spanish doorway on a house at Rye; Cram, Goodhue & Ferguson, architects

ed to their needs, and frequently a number of patios were used as the demands required.

Within these enclosures their cattle and herds were driven at night for protection, where they were safe from the savages and wild beasts. These settlements were in reality large ecclesiastical farms with their cattle grazing on the adjoining plains, and the grain growing in the surrounding fields. Here also the Indians were gathered and instructed in the art of civilization, religion, trades and farming. Isolated as they were in those days, it was necessary for each mission to provide for its own wants; therefore, rooms and apartments of different kinds were set aside for their particular purposes, and all gathered together, as it were, under one roof.

The most prominent portion of the building from the exterior would be the church, with its dominating belfry, while around it would be collected the bedrooms or cells for the monks, the refectory, the kitchen, hospital, schoolrooms, workshops and sundry buildings.

This is, in short, the history and description of the so-called "Spanish Mission" style of architecture. These settlements were made by Spanish religious orders engaged in frontier work, and this class of men naturally would not bring with them artists or architects, so they built with the best talent



The mission of San Luis Rey in Southern California. The tiled roof, arched cloisters, bell tower and facades are prominent characteristics

and skill they had at their disposal, following the examples familiar to them, such as appear in Spain and Mexico. They naturally built simply and substantially, but in that simplicity lies all their charm and beauty. Large, plain wall spaces are characteristic of this type of building, and when man finished his work, nature started to embellish it with her clinging vines and overhanging trees, transforming them all into a picture of charm and beauty. Any attempt at gorgeous enrichment and elaboration would have been fatal to the artistic and enchanting results.

The most characteristic points of this style of architecture can be described as a low building with heavy walls of adobe brick, covered with stucco; a low, pitched roof, covered with tile, and wide, projecting eaves, casting the deep shadow so necessary in a sunny location; belfries, formed by the projecting of the walls above the roof, pierced with arched openings to carry the bells, while the inner courts were surrounded with arches, forming spacious and picturesque cloisters. The windows on the first floor were frequently enclosed with turned wooden grilles, a remnant of the iron grilles of Spain, and used for protection. The walls were of solid brick, covered with stucco, and have at times reached a thickness of six feet. Floors were frequently covered with large brick tiles, twelve inches square.

This style of architecture sounds



The Gillespie house at Santa Barbara shows many classic features adopted as suitable to the climate and location. Cram, Goodhue & Ferguson, architects



The long pool adds an attractive touch to the approach to the Gillespie house. It is Persian in its inspiration

very well, but how does it apply to the average modern suburban home? For the more Northern climate where winds and storms predominate, and where the cold is severe, this style is not at all practical. There a building compact and sheltered is desirable, but where the sunshine abounds, and where winter is of short duration, this type of building is most fitting. In the South the Spanish Mission is at its best,

but the architectural treatment when properly adapted to the conditions of the North, gives a most pleasing and happy result. Other types of buildings seem to have been the popular types to follow for suburban homes, many of which have become monotonous, while the Spanish Mission has been overlooked. This type is not splashy or elaborate, but can be enriched in a quiet way to great advantage.

What are the requisites of a private residence or home? In common, it could be described as a place for rest, a place to eat and a place to sleep, a place for thought, and a place to entertain one's friends. The question is, how best to accomplish this within reasonable means.

The Spanish Mission house has the advantage of being easy and simple of construction, void of the complications of building principles, as in many of the other styles frequently adopted.

This simplicity does not detract from its beauty; but when properly handled, simplicity can be relieved by



The patio is a requirement of the Spanish house and is a most acceptable addition, even with its Greek lines



As yet there is no absolute Spanish mission type, but various influences are conjointly used as in the Gillespie house

the grouping of motives and by the adornment of trees and shrubbery. The appearance of the building is one of quiet and rest, refreshing to the eye; its stucco walls are cool in summer, yet not oppressive in the winter. It has been said, "nothing is so much to be desired as repose in form and color," and the Spanish Mission gives it. The interior can be arranged to suit any condition. The tendency of the present day is to build the house reducing the number of stories in height, thus eliminating the climbing of stairs. A house spread out has the preference. This gives the possibility of the inner court or patio which forms the center of the Spanish family life. These courts are built with arches forming cloisters one story high, or as supporting arches carrying a second story above.

In the center generally is a fountain, around which are gathered potted plants and palms; here the family gathers and friends are received and entertained. The normal man, in his private life, hates publicity and craves retirement.

Houses thus built present this to the best advantage, as the interior of the building can be made very attractive and livable. The exterior walls can be opened by use of arches or posts, giving spacious porches for those who desire them. In the larger courts, trees were planted, and rose bushes were cultivated.

From the fountain often ran streams



A modification of the mission type that preserves some of the distinctive features, yet is a suitable style for Northern localities



A fountain and recess in the Gillespie house give the effect of coolness, valuable in the locality

of water carried off in open channels, around which flowers were planted. These interior courts of the Spanish Missions were used first as centers for protection, within which the monks were safe and free from anxiety. Here they would congregate in leisure hours and take their exercise. Then they began to beautify the open space, which resulted in the adoption of forms similar to the luxuriant and charming formal gardens.

The writer does not advocate the Spanish Mission as the best type of architecture to be followed universally, but this article is intended to show how it can be adapted, and how appropriate it is to suburban life.

First and foremost we must build with the materials at our disposal. We are entering upon a period of wood famine. The lavish use of wood as in former days, must be curtailed, and it will soon be out of the question as a building material. We are by necessity rapidly advancing to the concrete and cement age, following the footsteps of the old world. Concrete is being used in buildings in this country more to-day than ever before. It is easy of construction when properly handled and does not require skilled labor in its formation. Thus the expense is reduced. This is a marked advantage, especially in the country where masons for stone and brick work are scarce and often must be transported from the city. The out-

(Continued on page 90)



The arched doorways and gable ends here are mission characteristics; the porch is an addition not found in the prototypes



A house showing another variation from the mission type, yet retaining its tiled roof and characteristic arches



Early Model beets started early and then transplanted



Livingston's Globe is an early, small tomato of fine quality



Early Black Beauty is one of the best all-round eggplants



Golden Self Blanching celery is a tried and proven sort

New Vegetable Varieties That Have Made Good

MODERN IMPROVEMENTS ON OLD FAVORITES THAT HAVE DEMONSTRATED THEIR WORTH—SPECIAL CULTURAL DIRECTIONS OF VALUE

BY F. F. ROCKWELL

Photographs by

N. R. Graves, E. J. Hall

and Others



Squashes: Early Bush, to the left; Vegetable Marrow, at back; Delicata, in the foreground



There are several new strains of the Netted Gem type of melon larger than the original

TO the mind of the uninitiated the "creation" of a new vegetable variety is quite a mystery. They look upon each new sort described in glowing terms in color-plated catalogues, as absolutely distinct from anything that has preceded it—and quite naturally, for so they are informed time after time. As a matter of fact, however, the number of new sorts which are definitely different from their predecessors is very small.

In the popular fancy such plant breeders as Burbank are looked upon as wizards, who, one would think from press reports, sit down with an opium pipe and conjure up mental pictures of undreamed-of plants, fruits and flowers, and forthwith adjourn to the laboratory and concoct them of earth, air and water and necessary black magic. In reality, however, the black art they use is for the most part patience and care. "New" varieties are created generally by "selection," which is nothing more nor

less than choosing the plants which are to serve as seed producers. It is used in two ways: either to get an "improved" plant or fruit by using only the best specimens, year after year, for seed; or to get a new "type" by choosing specimens for some particular characteristic, such as earliness, size, color or quality.

The other method, which comes nearer to meriting the term "created," is to "cross" or breed two different varieties. Out of hundreds of such new sorts developed here and there one is found that is an improvement over one or both parents; and even then it is sometimes impossible so to "fix" the new variety, even after

generations, that it will not revert to one of the old types.

I mention these things in order that the reader may be better able to estimate for himself a little more accurately the real merits of new introductions. It is to be regretted that many American seedsmen are given



Above is the dry weather cauliflower, a boon for those who have had poor results with other varieties; at the left is the Davis Perfect cucumber; at the right, the Melting Sugar melon

over to the novelty habit—and not infrequently, when there is a dearth of new sorts, we get the old ones under new names. On the other hand, credit should be given those who devote a great deal of time, energy and money to the developing and discovering of new sorts that are real improvements.

Most of the varieties described below have been given to the garden public during the last few years, and while some—such as the Gradus pea or Golden Bantam corn—have already become household words, many others are not so well known as they should be. Practically all these varieties I have not only grown myself, but know to have been accepted by gardeners generally.

Asparagus.—Giant Argenteuil has become a great favorite since its introduction from France some years ago. It produces giant sized stalks, of fine quality. Palmetto, however, still holds its own, and in a careful six-year test, held at the New Jersey Experiment Station, out-yielded all other sorts by nearly one-third, and I consider the quality as good as that of any.

If you order any asparagus plants this year, be sure to get the pamphlet of cultural directions usually accompanying them, and do as it says. A mistake often made in caring for established beds in private gardens is neglecting them after cutting is discontinued in the spring. Next year's crop depends on this summer's growth. Keep clean and cultivate frequently.

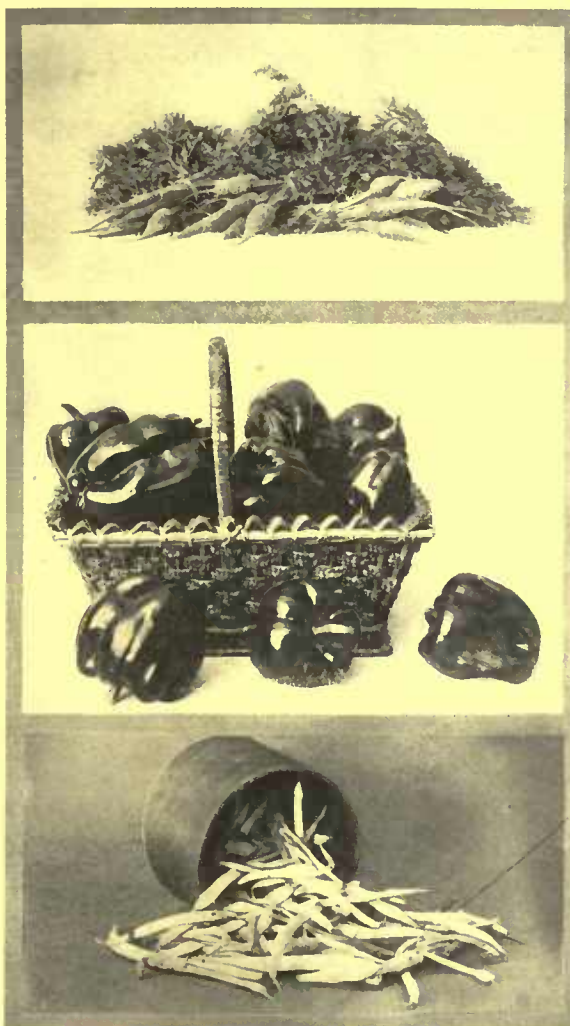
Dwarf beans.—In the matter of bean varieties I think the seedsmen might have spared us a little. There are too many that can't be told apart except by the tags. Good progress has been made, however, in eliminating the annoying "stringiness" of the older sorts. Stringless Green Pod is a favorite early variety. In place of the old Yellow Six-weeks, Brittle Wax is one of the earliest of the wax sorts. New Kidney Wax is a distinct improvement in the kidney type.

The last few years have seen great progress with the dwarf limas, which should now be used in every garden. There are two types—the Kumerle or "potato," of which Fordhook is the best sort I have found, because it is more bushy in form; and the dwarf tree lima, of which Burpee-Improved and New Early Giant are sorts that make a decided acquisition.

Burger's Green-podded Stringless is a real improvement in the pole beans. For yellow pole beans I have found nothing yet better than Sunshine or Golden Cluster—the former being more stringless. In pole limas the New Giant Podded is the best I have yet



Tie cauliflower leaves to make white heads



Three tested varieties: Chantenay carrots, Chinese Giant peppers, and Stringless White Wax beans



The new Bush muskmelon should make this fruit available for the smallest garden

found, and a very real improvement, especially in its habit of bearing near the ground on lateral branches.

The secret in getting early beans is to plant shallow in the lightest soil, and to risk losing the first planting. Two times out of three, or more, you'll come through, and there's little lost if you don't. Let your beans alone when the foliage is wet. Plant limas with the eye down, when there is prospect of fair weather for a day or two: they rot in the soil very easily. To get early pole limas, start inside in pots of sandy soil—two vines of the new Giant Podded are ample for one hill.

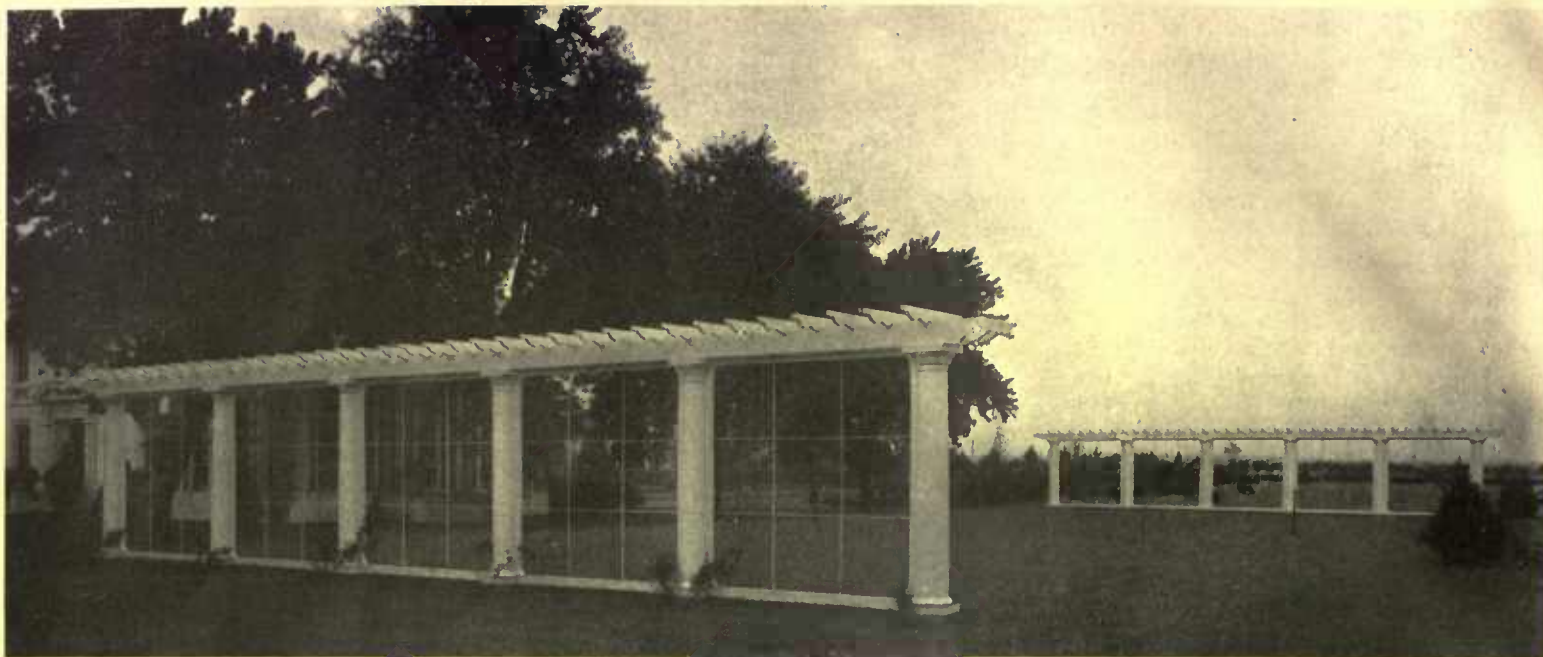
Beets.—Among beets there are no remarkable improvements. Early Model is a very excellent early sort, and Columbia, for summer use, is very good. They are better in quality than the older Crosby's Egyptian, and Blood Turnip, which are still used by commercial growers.

It is surprising how many private gardeners still depend on beets sown in the open for their first supply. They can be started and transplanted, like lettuce or cabbage, with the greatest ease. Set four inches apart, with one foot between rows. For best quality make several sowings during the summer, and cook as quickly as possible when preparing for the table.

Brussels Sprouts.—I consider Danish Prize an improvement over the popular Long Island Improved, in that the heads come even and are thicker set. Wroxtton is a new variety just being introduced from England. I have not experimented with it yet, but should think it well worth trying. Brussels Sprouts are very easily grown, and one of the most delicious late autumn vegetables. They will stand any amount of freezing after maturity; it only makes them tender. Be sure to sow a packet this June.

Corn.—Most of the progress with sweet corn recently has been in the introduction of yellow varieties. Burpee's small early Golden Bantam was the first of these to leap into popular favor, and it is still the greatest favorite. Besides its extremely sweet quality, it has two other characteristics which make it especially valuable for the home garden. It is very dwarf in growth of stalk, and is exceedingly hardy, so that it can be planted earlier than the shriveled grain sorts. Seymour's Sweet Orange, Golden-Rod, and several other later yellow corns are now largely replacing the older white favorites for home use, and I think deservedly so, in spite of the natural prejudice against yellow corn because of its resemblance to

(Continued on page 82)



The grass court under suitable conditions is built more cheaply than one of dirt and may be a beautiful feature on the place. The back-stops in this case are decorative in an interesting way. Oswald C. Hering & Douglas Fitch, architects

How to Make an Attractive Tennis Court

WHAT IS NECESSARY TO DO TO MAKE THE TENNIS COURT AN ATTRACTIVE FEATURE OF THE COUNTRY PLACE—DIFFERENT KINDS OF COURTS AND THEIR CONSTRUCTION—THE BACK-STOP

BY GEORGE ETHELBERT WALSH

Photographs by Mary H. Northend, Albert Nietes and others

LAWN tennis is one of the most popular of our outdoor games for both sexes, and it has retained its hold upon the public for a good many years in spite of the introduction of other games and the craze for novelties. Tennis gives just the right amount of exhilarating exercise in the open air that one seems to need, and there are hundreds of thousands of devotees of the game who play it regularly throughout the season.

But the possibilities of making the tennis court a great social adjunct to the country place are not always fully appreciated by those who follow the game. Primarily the courts are laid



This heavy back-stop would be rendered attractive by growing vines

out for practical use, but this should not interfere with their artistic development to make them attractive features of the garden. If one has the land sufficient for a tennis court it should be utilized with the idea of making it a pleasant place for quiet rest and recreation on warm days.

For instance, the wire net erected at either end back of the courts should be converted into screens of living green by planting vines on the outside, or if one prefers it can be covered with the climbing rose bushes to make it a glorious color effect. Better even than the ordinary wire net, an artistic screen of lattice work or trellis can be



Sometimes a tennis court must have an outside foundation and must be built inside of stone retaining walls. It is durable but quite expensive

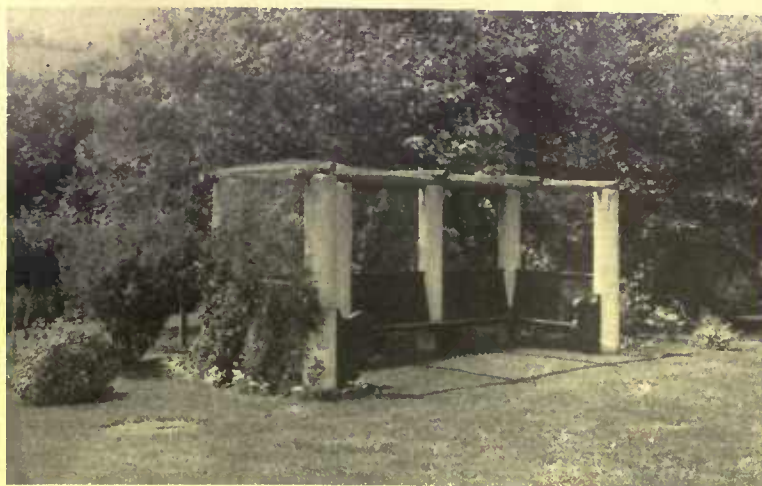


The level dirt court is the most common and more durable type and may be kept in condition by constant rolling

erected. This can be covered on the back with almost any of the climbing vines. Roses, honeysuckle, clematis, trumpet vine or moon flower are all suitable for this work. With a little pruning and training the screen can within a season or two be converted into a beautiful garden ornament.

Tennis courts are, of course, made in a variety of ways, but for a garden feature the grass court is the most effective. A clay court is more costly, for the ground must be excavated to a depth of eight or ten inches so that a proper foundation can be made of stones, cinders and gravel. But even a grass tennis court must be laid with the greatest care and provision be made for drainage. In fact the drainage problem is one of the most important in selecting a site and in building a court, and if overlooked there will be many promising days when you cannot play owing to water and mud surface.

The site for the court should have a perfectly unobstructed space of not less than 60 by 120 feet, and wire netting 10 to 12 feet high should surround the inclosure at least 15 feet back



A little shelter for onlookers is a necessary adjunct to the court and may be simply and artistically constructed

tennis court will never give satisfaction. Before the next layer of gravel is placed on the trap-rock, provision must be made for drainage. There are several methods of draining a court, depending partly upon the nature of the soil and the preference of the owners.

For ordinary soil a good method is to lay the drain-pipe near the net and at right angles to the courts, dividing them in half. The drain pipe may consist of stone sewer pipes cut in half or
(Continued on page 70)

from the lines. To make a good dirt court it will be necessary first to dig off the surface to a depth of at least one foot, and level it roughly with a spirit level. The cost of this excavation in ordinary dirt is not more than ten or fifteen dollars, but where rocks must be blasted away the cost may be five or six times as much.

After leveling the foundation a six-inch layer of trap-rock, such as used in macadamizing roads, or any broken stones ranging in size from a walnut to an egg, should be placed in the excavation. This must be leveled off also to keep the grade. An uneven

The Mathematical Spider

BY WILLIAM A. VOLLMER

THE WAY THE SPIDER SPINS HIS INTRICATE WEB

THERE is so much in the point of view that our ideas and attitudes become frozen and petrified because we see one side, accept it as the complete perception and squat there in smug complacency. A walk to the other side of the object would in many cases be a discovery as great as that of Columbus. With the spider, generations of old woman tales have made us loathe it as dangerous even to life. As a matter of fact, no one has ever entered the medical record as "died from the bite of a garden spider." There is a deal that we lose in this spirit that makes us kill every little garter-snake and destroy the painstaking efforts of the spider. For me the legend of Pallas Minerva and Arachne did much to remove the prejudice, for I learned to see in the spider the persecuted object of an unjust wrath. Ovid tells the story with minute detail in the Metamorphosis. Arachne in the pride of her weaving skill, engages with Pallas in a contest for supremacy in the making of tapestry. Though the mortal Arachne might have been more clever, her



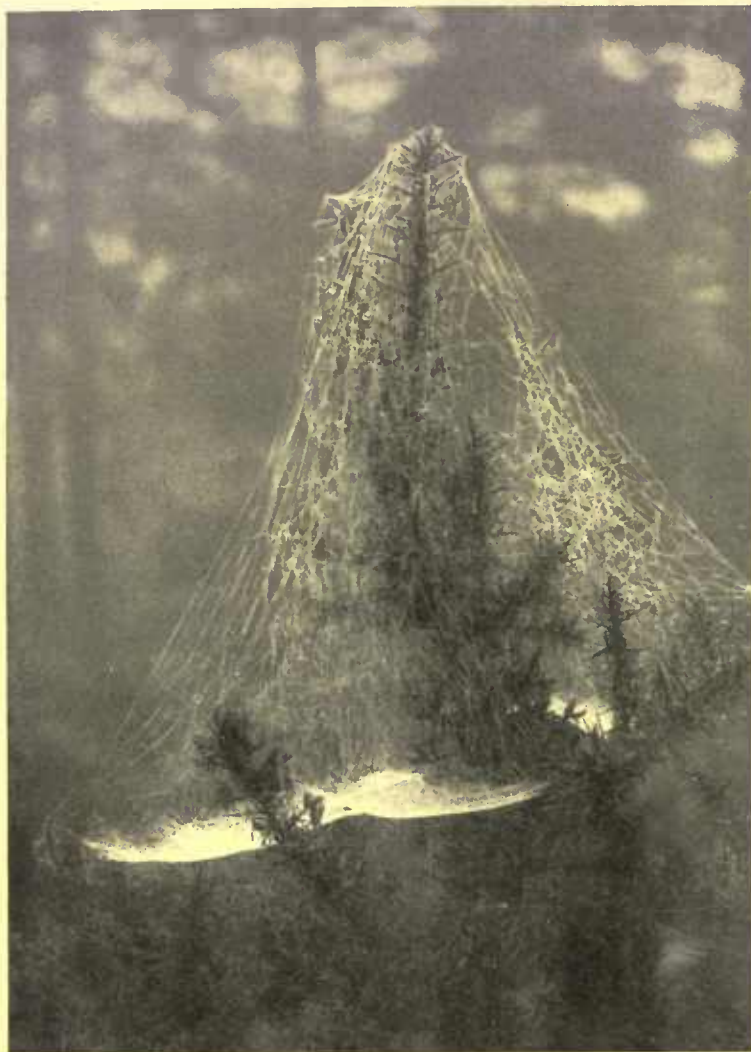
An orb web hung at the top of a bush with extra lines to serve as fenders

HOW CLEVERLY HE CONTRIVES TO LIVE BY TRAPPING

choice of subject was ill chosen in that she portrayed the frailties of the Olympians in her woven fabric. Pallas, enraged at the slighted dignity of the immortals, changed Arachne into a spider and doomed her to continue forever at her spinning in the form of that creature. It is from this legend that the generic name of spiders was taken. Spiders then evidently excited the interest of the Greek mind mainly through their ability to weave.

It is this faculty that continues to interest us to-day. Not alone the marvelous dexterity of weaving delicate thread into the geometrically figured webs that swing in our gardens and on hedge and fence, but also in the cunning which devises these gossamer threads as snares to trap prey and thus obtain a livelihood. These are the things that are well worth considering by those whose inclinations or opportunities preclude a scientific knowledge. The web and its weaving and the spider's use of his snare will bear some elucidation here.

Most of us have taken notice of the dew-starred filaments glistening in



Some spiders weave a mass of crossing lines connected with a cobweb-like sheet below. Prey is entangled and drops to the sheeted web or is made prisoner in the maze



In the center surrounded by a free space is the closely spun hub where the spider generally stays

the early morning sun and have paused in admiration of the work. Few of us have given it further attention than this, have not wondered how it was constructed any more than we have wished to solve the why or wherefore of the curiously voluted petals of the orchid or the iris. Let's begin, then, some evening and go where the webs hang and if we use a little patience we may learn with what nice judgment and fine artistry the little creatures build.

There are several main types of webs that we may notice. One is the orb hung vertically and resembling somewhat a target with many rings divided by a number of radii running from the small hub at the center that corresponds to the bull's-eye. Another web like this in form, is often found hung horizontally. A third type is the closely knit fabric stretched as we see it in the cobweb. Other varieties of spiders combine these forms or vary them, as in the triangular snares that resemble a few segments of the orb web stretched from a single thread, or the maze of twisted short threads that the labyrinth spider spins. This is not the complete scientific arrangement, but is the superficial one that the layman might evolve from an attempt at classification. Nevertheless, a single variety of spider will make but one kind of web that is characteristic of the class. That is, the garden spider, for instance, will always make a horizontal web which, though it may vary a little in position, will always be hung at or nearly parallel to the ground.

If we look carefully some warm evening we shall in all probability find a spider clinging to some stalk and if we are discreet, shall see a vertical web constructed. The small creature that we discover appears ill at ease, runs out on a small branch and back again and gives the impression of waiting for something to happen. If we watch closely we may notice that the spider stops from time to time and raises the tip of its abdomen. Here it is that the spinnerets are located and we may see a thin filament start and be drawn out at length on the breeze. It floats out and if the wind is favorable becomes entangled in one of several twigs that we see opposite. Now the spider seems to test it by slight pulls with his forelegs, and in a little while may be seen to essay a crossing on this slender bridge line. As he goes he drags a thread after him, which seems to unite with the first foundation

line. It is in this fashion that he builds and strengthens the support of the web to be constructed. After a while he will be seen to drop from a point in this main thread by another line that pays out as he falls. This he makes fast to something on the ground and ascending it affixes a thread at or near the center. Climbing upward he may be noticed carrying this new line in one of his claws. He brings it up to the bridge line and crossing to a point near one extremity of this makes it fast. Thus far there is already built a strong suspension line, another connecting this with the ground, and from this ground line still another traveling off at an angle and joining the main line, with which it makes a triangle. The upper part of the dropped line and this last one will be radii in the completed web.

So the animal goes on spinning; sometimes carrying a line and fastening it, sometimes lowering

himself to reach a point of vantage where he affixes a thread and reascending carries it up his vertical ladder and running to the center again attaches it, until all the radii are constructed from this central point and tacked on to foundation lines or tied to projections on stalk or grass blade.

The work is that of a clever artisan understanding the need of counterbalancing strain in one direction by cords placed in opposition. If the numbers on a watch may be imagined to represent the ends of the radii, for purposes of illustration we may say that instead of running the threads from the center point to the figure one, and then to two and then to three, and so on around the dial face, the spider will put in the scaffold threads from one and two, and then going back to the ground line (from twelve to six) will jerk the threads and appear to test them. The next radii will be those to figures seven and eight of the watch. So the animal proceeds, testing the strain on cords, tightening here and reinforcing there, always placing a thread where human intelligence would judge it to be most advantageous. When all the lines radiating from the center have been satisfactorily finished, the spider proceeding from the center spins a spiral that crosses the rays. He generally makes a center part or hub somewhat more closely woven, and then leaving a free space commences weaving the spiral until the outer edge is reached. This first spiral serves as the scaffold for the completed web, for now the spider may be noticed weaving cross threads of a different material. These are the sticky coated webs that ensnare the insects. The threads are tacked down as were the others, but the spider seems to stretch them in fastening and when they are released they show globules of liquid. This is one of the causes of the beautiful glisten one sees on webs. If we examine them with a glass there will be seen a regularity of arrangement of the tiny beads that is not unlike a necklace of pearls strung in alternating sizes. As this sticky web is spun out behind the spider, he bites away the original scaffolding and leaves the orb entirely coated with this viscid liquid except at the hub, where he seats himself awaiting prey. This course of construction eliminates the danger of the spider's entangling his own nest. Most webs are built after this fashion, but though they vary in size or shape they all display the same skill in engineering, the same mathematical appreciation of off-setting stress by putting a line almost at the very point our former instructors would have demonstrated by parallelograms of forces to be the logical place.

Although I have spoken of the foundation lines spun out on the air and entangled with an opposite object, as the general procedure of orb weavers, they sometimes do carry their line in one of the claws, walk over to the desired locality and when the right point is reached, reel in the slack with their jaws and make it fast. This is not so common, or to my mind so interesting as the sublime confidence with which the spider launches its delicate thread in the air and waits, trusting that it will reach the desired place. Spiders will sometimes spin themselves a basket and lowering themselves to a position of strategic importance, let a line float out in the breeze. If it catches in the right place, they swing off upon it. Jonathan

(Continued on page 75)



An orb web hung from a suspension line. Every time an insect is caught in the web it means that the spider must start at once and repair the destruction which always occurs



When dew covers the sticky threads the web looks like a large diamond sunburst flashing in the sun



The house is of stucco over lath and fits well into its surrounding of trees because of a roof of green, variegated tile and greenish chestnut window trim. The lattice and the metal work are also of harmonious dark green tone

Homes That Architects Have Built for Themselves

THE HOUSE OF HERBERT E. DAVIS, ARCHITECT, AT GLEN RIDGE, N. J.—HOW A HOUSE WAS PLANNED FROM IDEAS OF ITS INTERIOR RATHER THAN EXTERIOR

IF Herbert E. Davis, architect, of the firm of Davis, McGrath & Kiessling, were to be asked to name the central, dominating influence that was always uppermost in his mind when he planned his own house, he would doubtless say that it was the comfort, convenience and artistic tastes of his own family. That is very much what the average man would say, but in the matter of

building houses, an architect is several grades higher in importance and authority than the average man. Some reason that sounds a little more professional or more learned might be expected from an architect. But there was nothing technical or theoretical in Mr. Davis's way when he began to plan for his own home. He had his technical knowledge to help him and his experience to guide him, but he used these things as subservient allies and not



The garage is lattice covered and has an attractiveness often absent in buildings of this type

as arrogant masters. He left it for them to assist in the details after he had first started the major premise of the syllogism, which was that "a house is a thing to live in." The minor premise might have been, "I shall build a house," and then the inevitable conclusion was, "I shall build a thing to live in," and that was precisely what he proceeded to do.

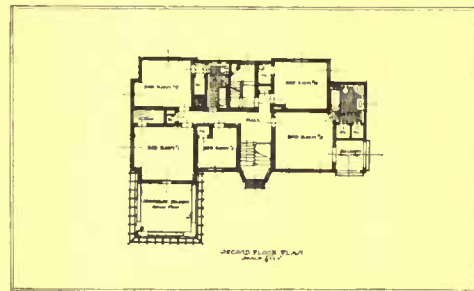
Mr. Davis makes no mystery of his methods in determining what sort of a house he would build in order that his main purpose—satisfying the requirements of his family—might be accomplished. Nor does he violate the ethics of the profession or reveal its secrets when he says simply that he built the house from the inside out and not from the outside in. As to its style, he says he does not know what to call it, but that his inability to attach a style tag to it seems to have in no way

impaired its liveableness or to have lessened the affection of his family for it. They wanted a house with plenty of rooms, well arranged and simply but tastefully trimmed and furnished, and they wanted a house on which vines could climb and near which plants and shrubs could grow as though they naturally belonged there and were a part of the house itself. These were to be the essential elements of the final structure, and it then remained to combine them into their harmonious assemblage in the building itself.

Although the house was to be built from the inside out, first of all there was to consider the size and shape of his lot, the slight slope of the ground, the southern outlook in front and the background of trees. The result was a house with a frontage of 60 feet on the street and a depth of 29 feet exclusive of the sun-parlor extension on the southwest corner. This broad frontage provided ample space for generous living quarters. The sun-parlor should adjoin the living-room, and furthermore should be on the south side and preferably ought to be removed somewhat from the main approach. The dining-room should be on the front side of a house of this shape with the opportunity remaining for a long living-room also on the front. These were manifestly the factors that determined the arrange-



A feature of the living-room is the fireplace of Indiana limestone with no mantel shelf above it, bringing out the beauty of the stained and paneled woodwork



The plans show generous allotment of space both on the ground floor and upstairs



All impression of bareness is relieved by the use of a simple lattice running over the larger blank spaces of the walls

ment of the ground floor, with the dining-room in the front southeast corner, 15 by 16 feet, the living-room 16 by 27 feet in the southwest corner, with the sun-parlor 15 feet square opening at one side, and the den 11½ by 12 feet in the rear on the northwest corner. The recessed main entrance and its vestibule, and the stairs to the second floor, breaking and turning, with a landing half way up, are compactly but centrally arranged, leaving the main hall 8 by 15 feet as a direct, unbroken passageway between living and dining-rooms, practically as an extension of the living-room because of the absence of a door between and because practically the same method of finishing is employed in both. Arranged in the rear are the working quarters, consisting of kitchen, three pantries, toilet and

one closet, with direct entrances into the dining-room, the hall and the den, and stairs to the second floor. The recessed rear porch or garden entrance, because of the slope of the ground, is five steps below the ground floor level with stairs down to the cellar and up to the main floor sections.

On the second floor are five bed chambers, two bathrooms, two closets with washstands, six clothing closets, and a sleeping porch, all arranged as shown in the plan. It is interesting to note that each chamber may be

(Continued on page 65)

Six Months of Flowers from Six Plants

A GARDEN THAT WILL BE IN BLOOM FROM SPRING TO FROST BY THE JUDICIOUS USE OF SIX HARDY VARIETIES
—A DESIRABLE GARDEN FOR THE TEMPORARY RESIDENT

BY GRACE TABOR

Photographs by Nelson R. Graves and others



A bush form of clematis (*Davidiana*)

A GARDEN need be neither large nor elaborate in order to produce bloom from the time of the last frost of spring well on past the time of the first frosts of autumn. Six plants will do it—and even the smallest garden space affords room for this small number. Rightly selected, these will begin the floral procession in April and continue it into November—which, being eight months instead of six, is good measure indeed, pressed down and running over. And every one of the six is hardy, requiring only to be planted and let grow.

In the order of their advance they are as follows: April, *Adonis Amurensis*; May, *Iris Germanica*; June, *Paeonia officinalis*; July, *Phlox paniculata*; August, *Clematis Davidiana*; September, hardy chrysanthemum. Of course none is confined to the month to which it is accredited, the bloom carrying over in almost every case to the month following, and sometimes longer.

The earliest of all is the pretty "bird's eye"—the perennial cousin of the annual "pheasant's eye"—of which the finest variety is *Adonis Amurensis*, a native of southeastern Siberia. Coming from a cold and less kindly clime, this blooms very early in the latitude of the Middle States, opening its first broad yellow flowers in April, and continuing to blossom on into June sometimes. The foliage of all the members of this family is finely cut, and masses of the plants are lovely even out of bloom, because of its decorative effect. Its height averages one foot. Use it as an edging before tall growing plants or in masses or clumps, if more than a solitary plant is possible. Give it either full sun or partial shade, in any good soil. It has a preference for that which is light and moist and it fancies rocky places, but these are

not essential conditions for its satisfactory growth. Plants of this are a much surer way of obtaining it than propagation from seed. Indeed, it is doubtful if seed can be obtained. Fall planting is, of course, the best.

Following the yellow of *Adonis* in April comes the deep rich blue of the old fashioned "flag" in May—if a blue variety is chosen. This blue flag of old gardens and dooryards is too familiar to need more than a mention; usually it is the true *Iris Germanica*. Hybrids of wonderful beauty are now offered, however, so that some other color may be selected if one chooses. These are catalogued by dealers under names of their own bestowing, and choice must usually be governed by the description. *Souvenir* is yellow with brown-veined falls, *Florentina alba* is pure white, *Shakespeare* is yellow with carmine falls, and *Lohengrin*, a new introduction, is a giant with pinkish flowers said to be five inches across.

Iris will grow practically anywhere where the sun shines. Moisture is desirable, but not essential, as some suppose. Plant the roots or rhizomes flat in the ground in the autumn—that is, in September or early October—cover them one-half their diameter, and mulch the ground with two inches of leaves as soon as it freezes, for the first winter. Remove this mulch early in the spring; otherwise it will encourage premature growth of leaf which late frosts will nip.

June brings the fragrant and dear old "piney" of old gardens—with as many kinds of flowers as one may choose to have varieties of the plant. There are over a thousand named hybrids of the double flowered form at the present time, beside the many less desirable single varieties. *Paeonia officinalis* is the earliest blooming kind, its flowers opening in late May usually and continuing into June. Of this there are white, pink and dark crimson varieties, according to taste. Choose always double flowered forms, as the blossoms of these last much longer than the single, both on the plant and cut.

Peonies will grow almost anywhere, but they grow so much



With the coming of June the peonies open. One of the earliest blooming and most handsome varieties is *officinalis*



Why are the hardy chrysanthemums not more popular? One can get excellent results from pot-grown plants set out in May



Iris Germanica offers beauty in both color and form, and is to be especially desired because easily grown



The different phloxes lend themselves admirably to mass effects. A good white form of *paniculata* is *Jeanne d'Arc*

better where things are to their liking that it is well worth taking pains to give them what they want. For one thing, they are greedy; therefore, the soil where they are to grow should have plenty of enriching material worked into it to a depth of two feet or more. Cow manure is probably the best fertilizer for them. Put a dressing of it around them in November every year, and work it down in the spring. Give plenty of water always and choose a deep, rich, moist soil for them if possible. They will do well in partial shade, holding the color of their flowers better there than in full sun. Use singly like a shrub or mass them in long rows bordering a path or walk. Do not disturb them after they are established. Unlike most perennials peonies do not need dividing and transplanting every third or fourth year, but may remain for almost any number of years untouched. Roots should be planted in September and should not have their crowns covered with more than two inches of earth.

Phlox is familiar to every one, being a general favorite; like peonies, phloxes may be had in an infinite number of colors and varieties, most of them being hybrids of, or forms of, *phlox*

paniculata. In choosing, be very careful not to get the magenta reds and the scarlets both, for the colors are intolerable together. Indeed, the magenta shades clash with pretty nearly everything else in the garden. Each nurseryman has his own list of hybrids usually, the same as with iris, so that it is difficult to say that any particular one is best. A good white is *Jeanne d'Arc*, another is *Miss Lingard*; of pinks there are *Elizabeth Campbell*, a salmon shade, *Peachblow* and *Mozart*, the latter nearly a white, yet having a salmon tinge; and then there is *Coquelicot*, a blazing scarlet, and *Siebold*, which is brighter still.

Phloxes should be planted eighteen inches apart when they are massed. One plant is lovely, but a group of from six to twenty, in one color, is gorgeous! Cut the heads

away as soon as the blossoms fade and prolong the period of bloom by not allowing the plants to go to seed. Any soil will grow them, but rich, moist soil will give finer plants and bloom. Dig plenty of well rotted manure into the ground where the plants are to go, and reset the old plants every third year, separating each clump into two or three so that the roots may have room to

(Continued on page 65)



The yellow flowers of the adonis are among the first to open in the spring

Modern Bathroom Accessories

WHAT MAY BE HAD TO FURNISH COMFORT AND SERVICE AND ADD TO THE CLEANLINESS OF OUR BATHROOMS—CERTAIN ENGLISH IDEAS

BY LYDIA LEBARON WALKER

Photographs by the author

THE modern bathroom is somewhat of a tyrant. Its immaculate character proclaims and protests against every spot. There is something dogmatic and insistent about its cleanliness. It has a psychology of its own, and the household must be on the alert to live up to it. If advances have been made in its decorative features, presented in a former article, the same is true to even a greater degree of its accessories. Without attempting to designate everything that ingenuity has devised in this regard, it will suffice to take up a few of the newest ideas that seem particularly appropriate and happy in their conception.

It will clear the way at the outset to say that in the accessories the touch of color is absent. One must look for that elsewhere. All is white. It is only in the wall treatment, rugs, towels, etc., that there is any color. For the contrasting whiteness there are psychological and practical reasons. Whiteness and cleanliness have come to be almost synonymous, and if cleanliness be absent white is its instant revealer. There is a fancy just now for having fixtures and accessories of white celluloid; and, indeed, it is the correct finish for everything to which it can be applied. Large objects, such as polish boxes, taborets, stools, etc., now possess this finish, which is even more chaste than white enamel. The latest towel rods are of this



A removable seat which may be hung in the bath tub is both convenient and practical

substance instead of glass.

If one's hands are not quite as precious as those of Kubelik, one is justified in giving them the best attention. Certainly there is something very inviting about the chaste daintiness of the snowy manicure lavatories which are now used. The little bowls are just large enough for one's fingers. A single faucet commands both hot and cold water. Slender

supports further emphasize the note of daintiness. These arrangements are not only the newest but the most exquisite for the boudoir bathroom. Naturally many ladies prefer having the services of the manicurist at their homes, and this may readily be done when such perfect provision is made.

To pass from the hands to the habit, from cuticle to clothes, is an easy transition; so we turn next to the new clothes bags. The old-style clothes basket that has seen such long service in so many bathrooms, has never been entirely satisfactory. As a necessity it has been admitted on sufferance. At best it could hardly be called particularly sightly, and it had the additional disadvantage of being too often in the way. Moreover, the reaching down to the bottom of it and fumbling and tumbling soiled clothing preparatory to the family wash

day, could not fail to be far from agreeable even to the best of servants. The new clothes bags obviate these difficulties. As will be noticed, the round canvas bag is suspended from a neat circular holder provided with fastenings. There are two bags. When one is full it is simply detached and sent to the laundry, the other taking its place. This method does away with any handling of soiled clothes in the bathroom. It is one solution.

There is another new idea applied to the same subject. It is neither basket nor bag, but rather a cabinet, in form and size not unlike the conventional music cabinet. Spring doors in the upper and lower sections, open at the top to admit clothing and at the bottom to release it. There is no further handling than simply to tumble the contents out on the floor. As intimated, the doors close automatically and remain so when not in use. In addition,



The wicker chair covered with a large bath towel is an English idea



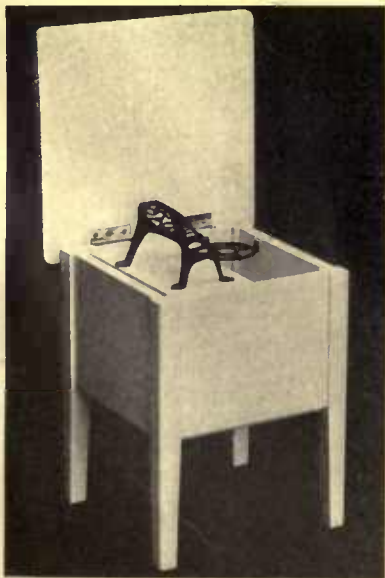
The English consider a waste paper basket a bathroom accessory



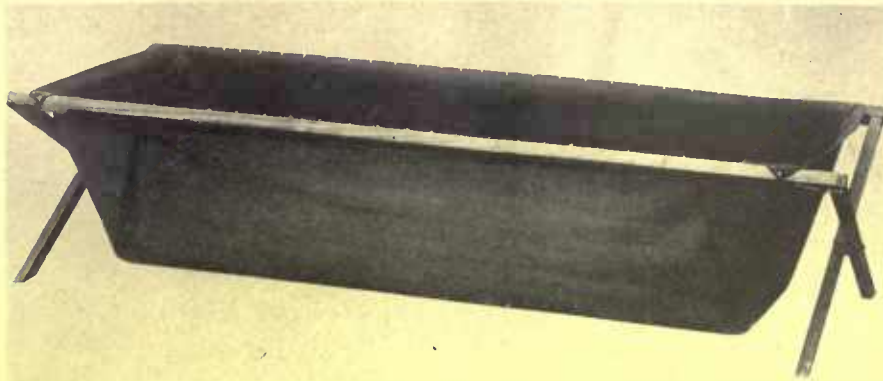
A canvas bag makes a convenient receptacle for soiled clothes

it, it will be found available for additional "shelf room" upon occasion. Probably if one were to choose between the cabinet and the hanging bag, he would select the latter if the bathroom were small and the former where proportions are more commodious.

Other dainty white accessories are the corner stool, the shoe polish box and the flower stand. As conventional chairs are out of place in the bathroom, even assuming that there will be room for them, the corner stool is a tasteful substitute. Its triangular shape permits it to fit into any unused corner without taking up any appreciable space. To sit down while putting on one's stockings seems to be necessary in the absence of gymnastic training. As to the shoe polish box, at first sight one might be a trifle dubious about making anything so immaculate the receptacle of a substance so—shall we say "smudgy"—as shoe polish. Yet the whiteness of the box is its

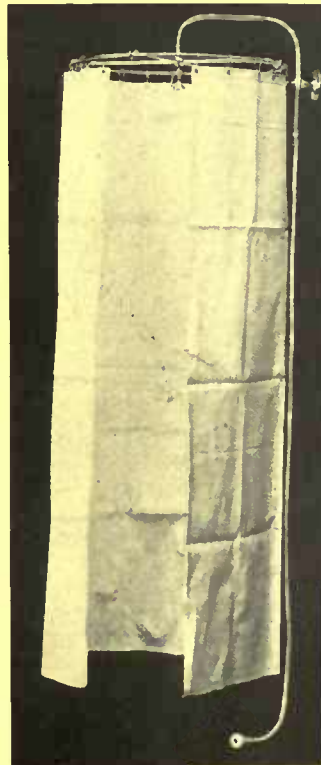


The shoe polishing box need never be an unsightly object



Especially in summer camp or cottage the folding bath tub has much to commend it

tion to its utility, the cabinet has a certain decorative value. While the smooth top will look better in its plain simplicity without being put to any particular service,



This form of portable shower is thoroughly satisfactory

salvation, showing every spot and stain which must be removed.

The flower stand is the only strictly decorative accessory considered in these

paragraphs. Plants, however, are now considered correct decorative touches in bathrooms. The ancient Greek idea is enjoying a revival. Palms, ferns and

rubber plants are particularly appropriate. Since this is true it is no wonder that the taboret illustrated has been designed especially to meet the requirements. Placed by the window with its burden of greenery it adds a refreshing touch.

Some one may say, "You are considering everything but the bath; surely the bath is a somewhat important element in a bathroom." To which we might reply that the bath is not an accessory, but a fundamental. No doubt a bathroom without a bath would be a very amusing anomaly. Nevertheless, it is conceivable that under certain circumstances, such a condition might exist. Consider, for example, some small, new summer bungalow, pitched in a retreat, which, however attractive, lacks plumbing facilities. Often the rooms are limited to very few. Some cubby-hole somewhere must be reserved for bathing. Very well. Suppose we have the place, how about the bath? Suppose one is in-

stalled, should it be a fixture? There is nothing in particular to "fix" it to. Obviously a portable bath is preferable where space is an

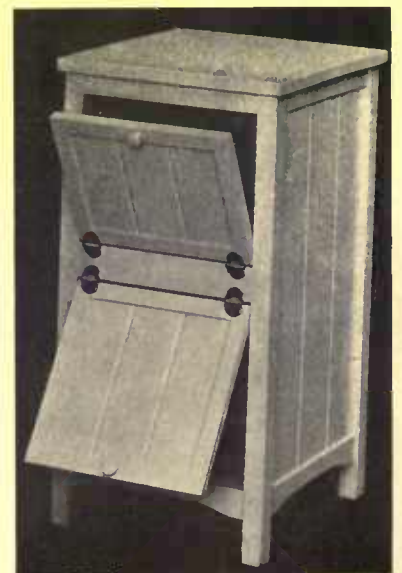
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For growing plants in the bathroom a white stand is obtainable



A triangular stool fits readily into corners and is an excellent substitute for more bulky chairs



Upper and lower doors render the soiled clothes cabinet desirable



Up in New England where the formerly traveled highway leads past once frequented roadside taverns now unpatronized, is a fruit country that need not yield the supremacy in apple growing to the West

Adventures with an Apple Orchard

BY JOHN ANTHONY

Photographs by the author

[The same fever that drove the forty-niners gold seeking is to-day impelling many men to try farming. Often pitifully unfitted in mind and body to do the work properly, they soon lose their enthusiasm and fail dismally. But there are many golden opportunities for the able and earnest, of whom Mr. Anthony is one. He has succeeded brilliantly; how he did it is told succinctly in these adventures, of which this is part one. The conclusion will appear in the April issue.—EDITOR.]

THE "why" doesn't matter. It is the reason that makes you want to leave the city. We didn't fit, city life and I, and it was daily becoming more irksome to get up in the morning to face another day.

My ancestors had come from New England and it was to that country that I made my way. Where the hills rise from the valley of the Connecticut, I knew a region of forgotten farms—a lovely place, the loveliest that I have ever seen, and yet it had been overlooked. Farms were for sale for less than the value of the buildings. Houses could be bought for less than the worth of the land on



A tent was pitched at the end of the orchard to be right on the ground to gain experience

which they stood. The place was dead, the sturdy old farmers were dead, or dying. The strong young ones had gone West; only weaklings remained.

Of course there were exceptions among the farms, and it was to one of these that I made my way. I carried my tent and received permission to pitch it at the end of the orchard and arranged to take my meals at the house. In four weeks I had bought the place. And it is only now that I know what else I bought. Life, hope and faith were not in the deed of the property, but came with it.

But right here I want to make myself clear. I wish to

say that the country offers opportunity to the man who wants to work and work hard; who wants to get up in the morning with the birds and go to bed long after they are at rest; who is ready to fill every minute of the many hours with work and thought and plans. This life is for the man who doesn't like the city because it thwarts him in his wish to work, because it does not give him the chance to develop, to use his energy. If you think that the modern farmer can hang over the fence and talk politics with his neighbor, can drive to town and use half a day gossiping with the loiterers at the store, you want to stay right where you are, and hold down your present job just as tight as you know how. The country is no place for you.

Hiram West was a product of the time when they made men in those hills. His was the strength that looked every man squarely in the eye, on equal terms, yet was not ashamed to admit sentiment of the kind that a less sturdy man would hide. For fifty years Mrs. West had fought the fight by his side and only advancing age made them willing to give over to younger hands the battlefield that they had held for half a century. A family of sons and daughters had gone forth from that hill-top, an orchard of fruit trees had grown up around them, fields had been reclaimed from the forest, a dairy had been built up from cows whose grandparents to the fifth generation had been owned by Hiram West. A comfortable house was theirs, and the big barns were filled to the ridge poles with hay cut from the fields. But best of all was the life which they had made in the home. Every Sunday there was a gathering of every relative within reach; neighbors dropped in and visitors from far and near stopped at the Wests'.

Our first common interest was the spraying of the fruit trees. At the time of the first spraying, just before the buds opened, Hiram had been away fishing. For forty years he had wanted to play hookey at this season, but a New England conscience had held him back. This year he had broken away. So it was

after the petals had dropped, the usual time for the second dose, that my "book" ideas had re-awakened his principles and, together, we began the job. There is much pleasanter work than coating a fruit tree with poison. The mist gets in your face, wanders up your nose, irritates your eyes, is breathed into your lungs and coats you from head to foot. If you take the nozzle end of the game, your sleeves get soaked and your neck acquires an apparently permanent crook, while a pretty solid ache develops in your back if you are on the handle of the pump. The mixing

of the solutions is a messy job. The lime has to be slaked, the sulphur boiled with it, the arsenate added and the whole mixture strained into the barrel. Then there comes the occasional stoppage of the pump, when the strainer on the intake has to be reached and cleaned. This happens just when you are in a hurry and there is a chance given for the stuff to settle and cause more trouble. I know these things shouldn't be, but they are, and I wasn't continuing my course of theory just then. I had spoken of a fine spray and Mr. West had bought a new nozzle. It was his first experience with the misty variety. Hitherto he had used a coarse stream and worked alone. One hand had operated the pump and the other held the hose which squirted a stream of poison over the tops of the tallest trees. Of course there had been some wormy apples, but he had thought them a necessity and it was only when he saw the fine mist settling over every bit of blossom, leaf and trunk that he began to see a light.

"I've been working on the wrong principles," said he. "I have been trimming my trees up in the air, for I could always squirt over them and the boys could reach the apples with the tall ladders. Now I see why they are always saying 'Keep your trees low.'"

And right here I got my first lesson in trimming trees. I learned the necessity for keeping them a manageable height. Not because I had read it, not because I was convinced by sound arguments, but because I had tried to throw the spray over tall trees. Here, too, came my first dawn of hope that I could handle



Farms were for sale for less than the value of the buildings. Houses could be bought for less than the worth of the land on which they stood

this orchard at a profit. Mr. West knew everything and I knew nothing, practically, about the work, but already I had discovered one weakness in his system that I could correct and that would help to equalize matters between us.

"Mr. West, will you give me an old tree to prune?" I asked one day.

The books had been very definite on one point. Have an ideal in your mind. Whether you decide on the low head, the high head, de-horning or heading in, doesn't matter, but you must have a fixed ideal. That has been a sad hindrance to me ever since. I have hunted for that ideal, hunted among my high trees

to pick. A low tree saves work and therefore money. Sun and air must get to every apple on the tree if it is to have size and color. And size and color mean added value. A tree is most symmetrical that has three or four scaffold limbs, or main branches, which support the smaller ones that bear the fruit. These scaffold limbs divide and subdivide as they extend from the trunk of the tree. In trimming an old tree you want to bear this in mind and come as near as possible to these conditions.

Remember, then, that the fruit must have sun and air, the main limbs are best reduced to three or four and the high tree must be lowered. None of these things has to be done the first year.



Where the hills rise from the valley of the Connecticut, I knew a region of forgotten farms—a lovely place, the loveliest I have ever seen—and yet it had been overlooked

and sought it in my low trees, but I have not yet found a symptom of it. Maybe it comes only in very young trees, but anyway it has troubled me so much that most of the trimming of the trees was handed over to others, because I was hunting, always hunting an ideal. My problem was really simple. It was to bring those trees down to manageable height, and to bring them down by such methods as would allow them to keep on bearing meanwhile. They must feed me and clothe me while they were coming up, or rather down, to my theories.

I know very little about trimming apple trees, and I speak with much diffidence on the subject. But there are certain general principles that seem to be common sense. The tree must be kept low, or brought low, if it has grown up in the air. Not because it looks prettier, but because it is easier to spray, to prune and

but all must be borne in mind, as the result to be obtained in two or three seasons' work.

Conditions vary so much that it is impossible to give any rules by which to trim a tree. The shape of the tree, its vigor, the tendency of the variety, the surrounding trees, the lay of the land, all have to be considered. I cut back big, healthy trees to a mere fraction of their original size, because they were shading others of more valuable varieties. My theory was that it was better to take the chance of developing a low tree where it would not shade the other tree, than to cut it out entirely. I have no authority for this, and perhaps even additional fertilizer will not make up for the drain on the soil of two trees too near together. Writers tell you that it is better to have one symmetrical tree,

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What is Meant by Soil

THE EXPLANATION OF A MUCH USED BUT LITTLE UNDERSTOOD TERM
HOW TO TELL WHAT KIND OF SOIL YOURS IS AND HOW TO TREAT IT

BY FRANCES DUNCAN

FOR gardening purposes the earth's crust has two layers—the top soil and the subsoil.

Garden books will advise "clayey soil," "loam," "light sandy soil" and the like, and the would-be gardener looks at his patch—which to him is only plain "ground"—and is quite at loss to know its variety. Yet to attempt a garden with utter ignorance of the soil is like raising children with a cheerful indifference as to diet. Soil, after one gets a bit used to it, is vastly interesting.

The portion of the earth's crust which chiefly concerns the gardener is, as I have said, its two upper layers. Into the top layer, decaying wood, leaves and animal matter have been incorporated, plough and harrow have broken it and the roots of plants can feel their way about and find something to eat.

The next layer, the subsoil, has been but slightly affected by this process, and one of the great uses of the new farming is to deepen the top soil, extending it down into the subsoil and so enlarge the resources of the plants, for the depth of the top soil is usually the depth to which the land has been ploughed.



There are four ingredients of soil: sand, clay, gravel and humus; and it is the proportion in which these are mixed that determines the kind of soil.

THE INGREDIENTS OF SOIL Humus, which is greatly valued by plants and gardeners, is animal or vegetable matter so completely decayed that it is ripe and rich for plant food. Dark, black earth is sure to have plenty of humus in it.

Sandy soil is light and crumbly, so that a handful of it slips through your fingers like granulated sugar—even when it is wet, it has no adhesiveness. Sandy soil holds water poorly, and for this reason bulbs are set on a cushion of sand to prevent their rotting: the water slips through the sand, the roots go down in search of it and the bulb itself keeps dry.

Sandy soil is the boon of the early gardener; it is warmer, ready for ploughing weeks before clayey soil, excellent for all the early vegetables, for tea-roses, mignonette, bulbs, poppies, bush fruits and strawberries, but not good for oats, wheat, rye and deep-rooted grains.

For improving sandy soil stable manure is one of the best materials; it not only adds the valuable humus but improves the texture and makes little reservoirs for water where before there was none. Leaf-mold is next best; it is possible to grow trees on a soil of pure sand and leaf-mold. The so-called green-manuring helps it, as do cover crops left on all winter and ploughed in in the spring. Because the defect of sandy soil is its leachiness (the extraordinary facility with which water will pass through it), gardeners treat it very differently from a clay soil. Instead of autumn ploughing, they plough in early spring, and give fertilizer and manure just before planting, lest the rains send this down to the subsoil before the plants can seize it.

Clayey soil is stiff and sticky, and the most difficult to manage of all the soils. In the spring it has to be ploughed at the psychological moment, or it will be lumpy and require much harrowing before it is in shape for sowing. It is stiff, cold; and the water doesn't get through it easily, but lies in puddles on the surface. In a drought it bakes and cracks. And yet a clay soil has its advantages; on it can be raised strong, heavy crops—oats, wheat,

hay, apples—and in the flower garden, dahlias, zinnias and hybrid perpetual roses.

To improve a clayey soil, sand is excellent; gravel, peat, leaf-mold and even coal ashes will improve the texture. Leaf-mold and peat add richness as well as bettering the texture. Liming will make the soil of better quality; fall ploughing and a subsequent leaving of the land to "weather" is excellent for a clayey soil. Manure may be carted out early and spread on the land to leach in slowly.

A loam is a workable and, as far as plants are concerned, a most digestible mixture of clay, sand, silt and humus. A "garden loam" is a well-worked soil, in which all the ingredients are nicely balanced and, by years of cultivation, is well broken and easily assimilated. When one or another of the ingredients predominates, it gives its name to the loam. Thus we have a sandy loam which, to be exact, is loam that has sixty to seventy per cent. of sand; if it has as much as seventy to eighty per cent., it is called a "light, sandy loam," but still contains enough of other ingredients to modify the defects of a sandy soil and keep it still a "loam." The endeavor of a gardener on sandy soil is, by manuring and cover crops, to convert it into a sandy loam.

A clayey loam by the same token has sixty to seventy per cent. of clay; a heavy clay loam seventy to eighty per cent.

Loams naturally have a wider repertoire of crops—they are "all-around" soils. They are easier for the inexperienced gardener to handle than more positive soils; they can be "all things to all plants." A loam will have sand enough for strawberries and yet clay enough for apple trees, and the best fertilizer for a loam soil depends upon which ingredient predominates and upon what you want to grow. Sometimes, as Dean Hole points out, a gardener's salvation lies at his very door, and the very remedy his soil needs is near at hand; thus a muck swamp may not be far off from clay soil which needs its ameliorating power.



Aside from the feel of it and the look of it, there are mechanical tests which are not so difficult to apply.

First, get a fair sample of your soil from several different places; say a quart. **ANALYZING THE SOIL** Weight this and put down the weight.

Next put the soil in a pan at the back of the stove and let it stand until thoroughly dry; but it must not be allowed to burn. Weigh again, and the difference between this and the first weight is the amount of water the soil holds.

Now put it in a hot oven for three or four hours; then weigh again. The humus will have been burnt, and the difference between the second and third weights gives the amount of humus.

Now in your pan is clay, sand and silt. Put this soil in a wide-mouthed glass bottle or jar—a two-quart jar will do; a larger one is better. Fill it with water, and then shake it violently. Then set it down on a table and watch.

The sand or gravel, being heaviest, will settle first; next the silt, while the clay will remain in the water for hours. After a day or so look at your jar and you will see—not sharp divisions, but yet the different elements separated definitely enough to give you a fairly good idea of the proportions. Knowing this, one can go at one's gardening intelligently, which is a great advantage to the garden!



Everyman's Poultry Plant

WHAT ANY PERSON CAN DO WITH TWENTY HEN
SMALL LOT, BY SPENDING FIFTY MINUTES A
CARE FOR THEM—BREEDS, HOUSING, AND THE PROPER

EVEN in these days of scientific poultry raising with reams of chicken literature on every hand, there are some people who labor under the delusion that a few hens can be made profitable if they are penned up in a neglected corner of the back yard and fed on scraps from the table.

Feed them any old thing and they ought to lay, is the idea of the beginner poultryman who fails to realize that chickens to be good egg producers must have strict attention paid to the quantity and quality of their food, as well as to the comfort of the quarters in which they live.

For the average family in the average town, a flock of twenty fowls will be found a paying investment if the proper care is taken of them. The facts and figures following are the result of several years' successful chicken raising on a small scale, and under conditions that are unfavorable rather than otherwise, for the lot on which my chicken house is situated is quite small, so that there is scarcely as much room as is usually considered necessary. All of the fowls in the flock are Plymouth Rocks, which for general use, that is for the table as well as to lay eggs, are as good as if not better than any other kind. Rhode Island Reds are considered more desirable by some people, while others prefer Wyandottes or English Orpingtons, but as an all-around utility fowl the Plymouth Rock can always be relied upon. The "egg-machine" varieties, as Leghorns and chickens of the Mediterranean class are called, are not practical, as they are too small for table use, and in the twenty hen proposition this is one of the important points to be considered.

A small plant of this sort can be started in several ways: with a setting of eggs, with day-old chicks, or with young fowls of five or six months. In the last two cases the trouble and uncertainty attendant on hatching the chicks are done away with entirely, and while the pullets will cost about one dollar apiece and the day-old chicks only a few cents, the difference in the price is counterbalanced by the fact that the pullets will begin to bring in returns immediately, while the chicks must be fed for several

months at least before they even begin to pay for themselves.

As chicks need no food for forty-eight hours after they are hatched it is quite possible to ship them for considerable distances, so that this industry is beginning to assume large proportions, and there are many poultrymen who make a business of incubating and selling the day-old chicks in various quantities.

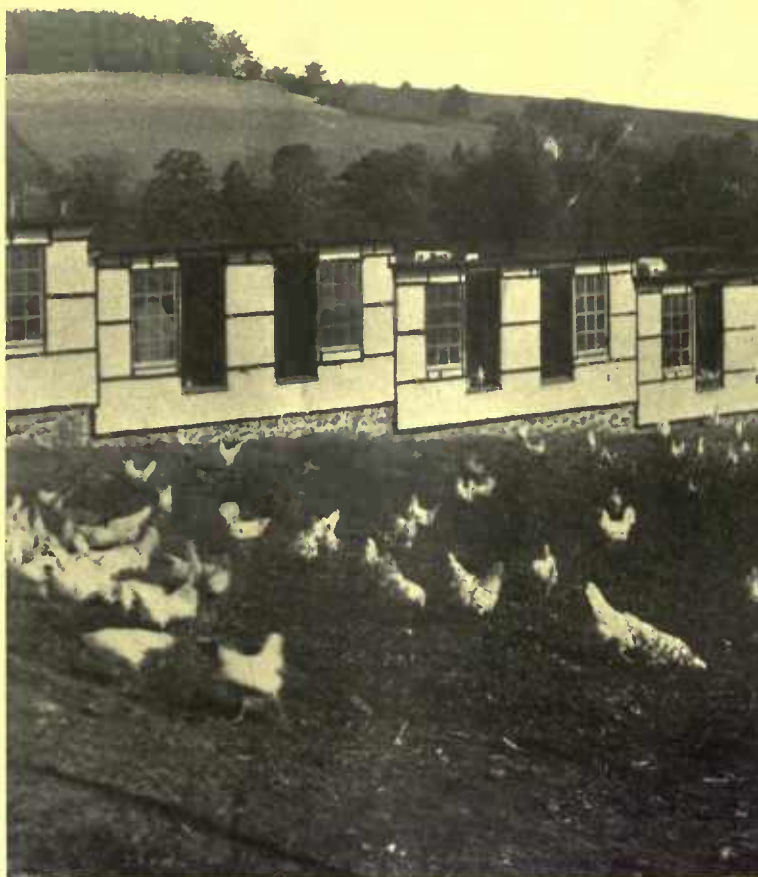
The space allotted to this twenty hen flock and enclosed by wire netting is 40 x 24 feet, which includes that occupied by the house. The latter is 8 feet long, 4 feet wide, with a height of 4½ feet front and 3½ feet in the rear. Opinions differ as to the relative merits of canvas or board fronts, the size of windows, ventilation, etc. I have found that ventilation without draft, sufficient light and all of the sunshine that it is possible to have, are the important requirements of a chicken house regardless of size or materials.

The house should by all means face south or south-east, in order to get the proper exposure, and it should be so arranged that the entire front, or most of it at least, can be left open, exposing the interior to the direct rays of the sun. The front of my house is of boards attached by hinges at the top, so that it can be kept at any angle. During the day it is turned up as far as possible, while the width of the opening at night depends on the temperature and weather. This hinged front, when closed down, comes only within eighteen inches of the ground, the remaining space being filled with a stationary board which serves as a further protection from drafts and forms a more or less effective barricade against rats and other four-footed depredators. In the back of the house is a small window with glass panes for furnishing light on dark and rainy days.

Of course for larger houses fronts of canvas instead of board are much better on account of the difference in weight and also because they

are less expensive, and except in parts of the country subject to extremely low temperature the canvas-covered openings are thoroughly satisfactory.

Absolute cleanliness in house as well as in the food is one of the important rules for the successful chicken raiser, and unless fowls are kept clean and comfortable they will not be good layers. The dropping boards of course must be cleaned regularly. If there is a cement floor the hose can be used to good advantage on the boards as well as the floor, and the entire house should be whitewashed several times a year. In addition I use kerosene on



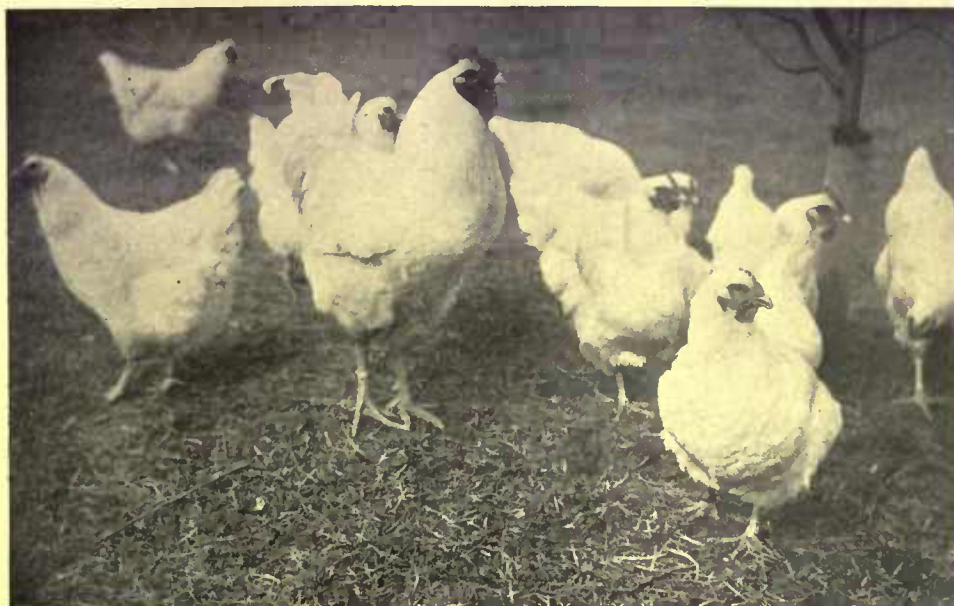
Plenty of exercise out-of-doors is essential to the welfare of chickens, and they should be given a wide range if possible

the roosts at frequent intervals, putting it on with a brush so that it will permeate all of the cracks. In using kerosene it should be put on as early in the morning as possible, thus giving it time to soak into the wood before the chickens go to roost, otherwise it is apt to make their feet sore.

As to food, I consider cleanliness and regularity just as important for fowls as for human beings. They expect to be fed at certain times, and they should not be disappointed. If the best results are to be had in the number of eggs as well as the general condition of the chickens, the hours for their feeding must be regular and not just when anyone happens to think of it. Another point in which the amateur is often mistaken is the feeding of promiscuous scraps from the table, or to be more exact, from the garbage pail—he usually thinks anything will do, from crusts of bread to highly seasoned salads and rich desserts. To many an economical soul it seems far better that the chickens should have such scraps than that they should be thrown away and apparently wasted. I am careful to let the chickens have nothing from the table except the left-over portions of salads and green vegetables, and then only when any dressing or seasoning has been washed off. The condiments that go into most of the food prepared for the table are decidedly harmful to chickens, and they are much better if they do not eat anything that has been spiced or seasoned.

As everyone who has ever had the care of chickens knows, wheat and bran with a little charcoal mixed in, a liberal quantity of grit and shell, and some corn during the winter season are the proper foods for fowls. I find that the cost of feeding my twenty hen flock averages three dollars a month, or ten cents a day. A sack of wheat costing about \$1.90 will last almost one month, a sack of bran at \$1.30 lasts three months, while of charcoal, grit or shell I use about 50 cents' worth each month. Twice a week I buy a pound of a cheap cut of meat, have it ground fine like Hamburger steak and mix it with the mash, and in every mash that is made I put a handful of charcoal so that the fowls eat it regularly whether they like it or not. Grit and shell are kept in a small open box in the pen where the hens can get at it when they choose.

Unless chickens can take a good deal of exercise they are bound to get fat and stop laying. When they are kept in a pen and not given free range of the yard or lot this is a fact that should not be overlooked, and a scratching pen is a real necessity. I have a pen 8 x 10 feet in size, the bottom covered with several inches of



White Plymouth Rocks were found to be a very serviceable general purpose fowl, being excellent for table use as well as egg production



A small sheltered pen in which straw is scattered furnishes yarded fowls with a place to scratch

straw into which the wheat is dropped and raked over, so that they are obliged to scratch for it or go hungry. This pen is under cover, as is also the dust bath, another necessary adjunct to every chicken yard, for both would be quite useless if they were not protected from the wet.

Even though the hens get considerable exercise in scratching, it is much better to give them the run of the yard for at least a short while each day, and I always let them out of the pen for fifteen or twenty minutes

in the middle of the day or late in the afternoon. A certain amount of green food is almost a necessity, and for a great part of the year they can pick at the grass during their few minutes' outing. In case there is no grass available chopped alfalfa or kale or cabbage, any sort of green in fact, is good, and it is best to give them this green food if possible in the middle of the day. When such food is not to be had I feed them very sparingly at that hour, and contrary to the custom of many successful chicken raisers, I give them wheat in the morning and dry mash at night. This provides them with exercise early in the day and sends them to roost with full craws that they do not have to work for, and so far I have no reason to think that it is not the best method.

An abundant supply of fresh, clean water is still another absolute necessity in the chicken yard.

I use crocks holding one gallon each, made of white earthenware, so that it is easy to see that they are perfectly clean, and they are filled with fresh water twice a day. During the summer I occasionally put a little copperas in the water just by way of precaution.

One more item often overlooked by the novice in poultry raising is that the hens should be kept quiet, and not disturbed or frightened. They are silly things, with little sense at best, and are easily alarmed, a condition that is almost certain to interfere to some extent with their laying. If hens are kept clean and comfortable, quiet and contented—for there is such a thing as content in a chicken—and are properly fed, there is no possible reason why they should not lay regularly, if not phenomenally.

During the last year my twenty hens laid 2800 eggs, an average of 140 apiece, and this of course included the moulting period and also time wasted by a number of ambitious hens that wanted to sit and had to be broken of the desire. My family of three enjoyed the luxury of new-laid eggs the year round, and we sold

(Continued on page 68)

The Planting Month for Roses

MARCH IS THE MOST SATISFACTORY TIME TO START ROSES—THE MOST SUCCESSFUL RULES FOR CULTURE, PRUNING AND PREVENTION OF INSECT PESTS

BY H. S. ADAMS

Photographs by Nelson R. Graves, Mary H. Northend and others

VERY likely there will always be a difference of opinion as to the proper part of the year in which to plant roses. "Late autumn," says one authority, "is the best time for setting out hardy roses," while the next expert will as stoutly stand up for spring. The preponderance of opinion, however, is in the direction of spring; and this is based on such excellent premises that the general run of rose growers should dismiss from the mind all thought of setting out their plants at any other season.

March, to be more specific, is the planting month for roses in the neighborhood of New York. In central Connecticut we plant the latter part of March or early in April. The great point is to get as early a start as possible in order that the roses may be fully established before the summer sets in. The hot summer, save in a few favored sections of the country, is the trying time for roses, by comparison with the English conditions, and the only way to grapple successfully with it is to plant as soon as the ground can be worked.

This rule, of course, applies to the so-called "dormant" roses. These are field grown. When received, they have shown no sign of awakening from their long winter sleep, and the earth has all been taken from the roots. Pot-grown roses, which have come from under glass and are in full foliage, are planted later. Their roots are in active feeding trim and they do not need so much time to get established in their new quarters, nor are they in so good shape to stand the cold of early spring. For that class of roses, which many prefer, the best rule is to set them in the ground when danger from frost is over.

Generally speaking, roses will grow in very nearly any soil that is not too loose or excessively sandy. If you have soil that does even tolerably well with vegetables, grass or grain, you can cultivate "the queen of flowers." In many places the ordinary garden soil, without special preparation, will grow roses that are good enough for any one who is not striving for "points" at an exhibition. But this does not mean that soil is something to be considered too lightly. Roses like a rich, deep loam which has both clay and sand in it. Hybrid perpetual roses will do well in nothing else, though teas sometimes will thrive in soil in which there is considerable sand or gravel.

First pick out the spot for the rose border or garden; the soil can be made more easily than favorable site conditions. The hot sun of summer is one of the things climatic to be thought of. Nevertheless roses must have plenty of sun; no shade, but shelter

is their demand in brief. Therefore choose for them a place that is really warm and sunny and at the same time well protected from the bleak winds of winter and the strong winds of the other seasons. Protection from the north and west may be obtained by a hedge, not too near a wall, a windbreak or buildings; it matters little so that the winds do not have full sweep.

The question of whether to lay out a bed, a border, or a more or less formal rose garden is not so much a matter of one's desire,

or taste, as his limitations. Aside from the all-powerful reason of expense, there are the questions of adaptability to the particular space that the home grounds afford and the time that one cares to give to this branch of garden diversion. Unless one makes roses an out-and-out hobby, and has both leisure and money to ride it, the attempt to create a rose garden of any pretentiousness is not worth while. Nor is it usually best for a small place; as it takes up a great deal of room and, save for a prodigal fortnight or so in June, is anything but showy. Beds would better be avoided, unless incorporated in a general garden scheme. That leaves the border, and this is far preferable for the average home grounds. The border has one distinct advantage that few ever think of; it can be run along the sunny edge of the vegetable garden. What, relegate one's roses to the vegetable garden? Why not? They will thrive there wonderfully, can be cared for easily and you may cut all the blossoms you want with long stems and feel that you are not depriving the dooryard of color. This plan has been tried and it is all right.



In many ways the rose is still queen of the garden and should not be neglected because of cultural difficulties

When the site is selected, soil that by nature is poor must be made fit for the purpose. If hopeless as it stands, don't attempt to compromise with the situation, but resort to heroic treatment at once. Define the boundaries. Then remove all the soil to the depth of two feet and loosen the bottom of the trench with the point of a pickaxe. Next put about a foot of well rotted manure in the trench and fill up with good soil mixed with more manure. Some growers maintain that the surface of the bed, when the soil has settled, should be one inch below the surrounding level; this is in order to catch and hold water. I, however, prefer the slightly raised bed. If the soil does not need replacing, the spading should be at least two feet deep and all stones removed. Also some manure should be worked into the soil, as the rose is a rank feeder—a characteristic never to be forgotten. That the rose does not care for wet feet is likewise true. Choose,

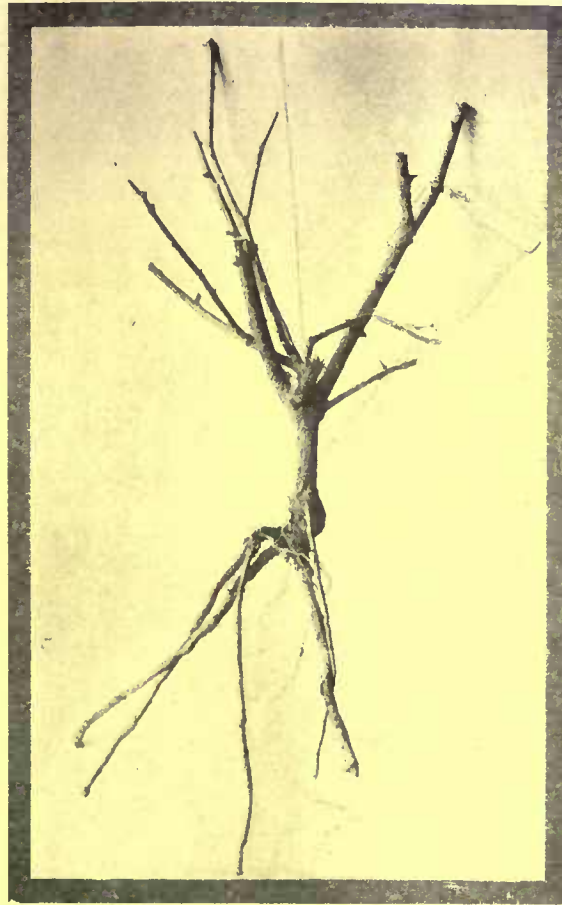
if possible, a well-drained site. If the ground is wet, dig the trench to a depth of three feet and put in a foot of cinders or broken stone or brick; if very wet, resort to tiling.

Alongside of the vegetable garden a single row of roses will answer very well, but in a border placed elsewhere a double row is better. The plants in one row, however, should be opposite the spaces in the other. This not only allows more room for spreading branches, but looks better. Make the border not less than four feet wide and set out the roses one foot from either edge of the border and two feet apart in the rows.

Roses are either on their own roots or are budded on manetti or some other wild stock. In the case of the budded roses, plant so that the graft joint will be three inches under the surface of the ground. This minimizes the trouble that is likely to arise from the stock throwing out suckers that, if allowed to grow, will sap the strength of the graft. When a sucker does appear, run the finger down under the soil to see whether it belongs to the stock; if it does, press it off. Now and then, even in the best regulated gardens, the graft will die and the stock thrive mightily. In that case do not despise the latter. It may be a double rose and it may be single, but, if transplanted to some corner of the grounds, will be a good producer of June color.

This precaution as to depth observed, fill the hole with water and let it soak in. Then, holding the plant upright with the left hand, spread the roots carefully with the right and sprinkle some fine soil over them. No manure should touch the roots, but it should be near enough for the new feeding roots that will soon be formed. Pack the soil firmly around the plants and finally remove any dead wood and cut the good canes back to three or four "eyes"—as the leaf buds are called. The best way to prune these good canes is to do so down to an outside bud, so that the top growth will be outward.

Thereafter water, if



A good example of healthy dormant stock as received from the grower showing good root development and well-shaped upper growth

necessary, by making a shallow trench around the plants. Fill with water and when the latter is absorbed, replace the soil. After the roses have leaved out and the flower buds are forming, mix one part of hellebore with three parts of wheat flour and sprinkle it on the foliage, but only when wet by rain or dew, as the powder otherwise will not stick. Sprinkle in the direction of the wind, not merely for convenience, but in order to keep the powder out of the nostrils. This will rout most of the insect enemies. For those that appear in August a tea made of tobacco stems is a good remedy. Rose beetles are most easily disposed of by knocking them off into a small can of kerosene.

If roses are cut freely and with fairly long stems, the plants need not be pruned in the fall unless they are so long that the wind whips them. In such cases they may be cut down to two feet. This is assuming that stakes are not used; most prefer to get along without them. The pruning time is March, before the sap begins to run. At that time hybrid perpetuals may be pruned as low as six or eight inches and four or five canes. Rigid pruning produces large blossoms. If mere quantity is desired, the canes can be left as tall as three feet. Prune tea roses after the buds begin to swell, and less severely than other varieties.

Most of the hybrid perpetuals, and some of the teas, are hardy in my garden, but I give all the roses a heavy covering of leaves

after the ground has frozen. They also get some tobacco stems as well as manure. In the spring manure should be forked into the ground, but not deeper than six inches. This with the fertilizer originally mixed with the soil and occasional liquid manure during the ante-flowering period, will keep a rose bed or border in fine shape for a matter of years. The best fertilizer is well rotted cow-manure; the next best is from the pig pen. Failing either of these, ground bone or some commercial fertilizer may be employed. These should be used

(Continued on page 77)



Where one has the space, there is no adequate substitute for the rose garden with its delicious fragrance and beautiful bloom

The Naturalizing of a City Man



Editor's Note:—The author of this narrative—begun in the December number—had refused to write the story of his experiences in going from business life to a farm. His objection was that the published account taken from his closely written diary would contain nothing of the joy and inspiration he felt in getting close to Nature, and would be merely a matter-of-fact list of happenings with their message lost. He finally consented to write it in his own way, allowing memory and imagination to lend color to those days of struggle which are now cherished recollections. He preferred to hide his identity under the disguise of another person, but the essential facts are true and full of practical information. This is the fourth installment and describes the early activities in the city man's country life. Subsequent issues will give further details of how their problems were met and overcome.

MARCH made the usual blustery entrance and for several days Mantell and his co-workers were practically confined to operations indoors.

During this time the greenhouse was fully appreciated, and every nook and corner of it was crammed with transplanted plants. Even so, space was lacking and ten second-hand sash, after a good deal of discussion, were purchased, at a cost of \$1.50 each, through an advertisement in the florists' paper. The treasury was getting alarmingly low, but as Raffles figured that this investment would pay back probably a hundred per cent. in ninety days, they decided to make it.

They worked in snow and a numbing north wind to get the frame ready, just south of the greenhouse, and put in a layer of spent manure so that the boxes would not rest directly on the still partly frozen ground. This string, or frame, while put together hurriedly and cheaply, was fairly tight, and greatly relieved the congestion in the greenhouse. Into it went the best of the cabbage plants selected for their own use, and several thousand to spare for spring sales. On cold nights they had to cover them over with old bags, boards, some old shutters—it was surprising how much material it took to protect a space 6 x 30 feet. Twice the plants got frozen, but by leaving the covering on to keep them shaded, and sprinkling with cold water, Raffles brought them out of it safely.

A bright, warm Sunday afternoon, early in the month, they spent in turning their regular weekly tramp into a measuring party. Raffles, with the figures obtained, made a plan of the farm, showing the approximate area of each field, so that they would not be going by guesswork in estimating the amounts of manure or fertilizer to apply, or crops harvested. This plan was also of great assistance in figuring out rotation of crops, and keeping track of the farm work.

Squire Hunderson was amused, but interested, at this new proceeding. He said he'd "farmed it for nigh onto forty years and never measured a piece of land yet." But in his generous, jovial way he conceded that it might be a good thing, if any one wanted to farm it that way. "I suppose the old ways are going," he said, somewhat ruefully, "and that they'll be weighin' and measurin', weighin' an' measurin' everythin', same as if it was a factory, an' putting in so many pounds of this and that for every crop they take off. An' they do get some pretty good results down to the State College; but I'm glad—I'm glad I won't live to see it. I've always treated the old farm pretty square—fed her pretty generous, without keeping any count of the platefuls, and she's always paid me back at harvest time—yes siree!"

The Squire was not averse, however, to rendering assistance in any way he could, and was glad to go over the place with them and give his advice as to the planting of crops. He knew which fields had yielded the most hay the preceding season, "just about worth cutting—that's all," he informed them, and these Mr. Mantell decided to leave intact for the present. The garden they planned to put in a spot which formerly had been devoted to it, but which for many years had grown nothing but wild grasses. It was an excellent situation, fully exposed to the southeast, and sheltered to the north and west by the buildings and a strip of woods. Raffles was highly delighted with it. His "department," he said, could ask for nothing better. Two fields to the north and

east of the road they settled on for corn and potatoes, about two acres of each. These fields had grown nothing but hay, and practically none of that, for a good many years. But they had quite a good sod, although it was "bunchy," and both the Squire and Raffles thought there was a possibility of fair crops. Mantell, however, felt rather downcast. He did not see how such poor, run-down soil could produce anything.

While they were looking over the chart of the place, on which the crops had been jotted down, Mr. Mantell seemed to be very much astonished at the amount of waste land it showed. Exclusive of the wood-lots and the land about the house, seven and three-fourths acres out of eighteen and a half, produced practically nothing.

"Why, it does seem quite a lot, when you figure it out," admitted the Squire, somewhat under protest. "But we've all got more or less waste land; of course, most of our pastures are in better shape than that field you've got labeled 'A,' but it does look kind of wasteful, I'll allow—seems to show up more on paper, somehow, than when you just think about it. I wonder how my place would show up."

Mantell smiled, but he resolved right there that here was a problem worthy of considerable attention. What manufacturer, he asked himself, would allow over forty per cent. of his machinery to be idle, or an equal amount of his source of raw material to remain undeveloped, even though it might be a little rusty or difficult of access?

VII.

Two acres of potatoes and two of corn for which to get seed! Mantell got out his catalogues and tried to decide upon the best selections. There were so many "best" that he finally gave it up in despair, and went to Raffles. Raffles advised him to see the Squire, saying that locality and soil determined the "best" variety, and he didn't know what sort they grew around there. The Squire mentioned several varieties, but would not commit himself as to any one of them being the best.

All this rather surprised Mantell. He was not used to dealing with such indefinite and uncertain factors in his former business, where things could be figured out with almost mathematical precision. So he went back to his catalogues again and selected three varieties which Squire Hunderson had mentioned, and one brand new novelty, lauded to the skies, illustrated on a colored plate, said to yield four hundred bushels to the acre, and selling for five dollars a bushel. At first he thought of planting half an acre of each of the four sorts, but this, at catalogue prices, allowing ten bushels to the acre, figured out to just sixty-two dollars and fifty cents. This was a good deal more than the present condition of the bank account would stand, even though there was a prospect of getting eight hundred or nine hundred bushels back. So Raffles was consulted again; with the result that after much discussion, they ordered one peck of the brand new variety at two dollars; two bushels of one of the other sorts at two dollars, and engaged eighteen bushels at eighty-five cents, from Squire Hunderson. This also made Mantell feel quite gloomy, as he was loath to draw the veil over the beautiful mental picture he had of next autumn's potato field, with its record-breaking crop nearly covering the ground, and envious neighbors, including the nonplussed Squire, standing by.

He was very sorry he did not have capital enough to run things in a business-like manner.

The matter of selecting the corn was by no means so difficult, although here again Raffles' opinion did not coincide with the advice given in the catalogues. The result was that one acre was to be planted with selected ears from the Squire's stock of flint corn and the second with a highly praised early dent, which, for the peck required, cost one dollar.

The corn they tested for germination in the greenhouse. Squire Hunderson's, from ears selected by Raffles, showed ninety-six per cent., that from the seedsman sixty-nine. Some of the kernels of the latter were small and evidently unripe, so they decided to plant this extra thick, making the amount bought for an acre cover only two-thirds, and get more of the Squire's.

Mantell was very impatient for the beginning of spring operations, and if Raffles and the Squire had not been there to teach him better, would have begun work while the soil was still wet and pasty. As it was, he was the first one in the neighborhood to break ground, and the rolling over of the first brown furrow gave him a sensation of exhilaration and victory as great as that from any business success he had ever achieved.

The Squire's pair of big grays—a little soft after the winter's easier work—were inclined to rush and fret at first, but soon steadied down as strip after strip of the long-unturned garden patch rolled up and over, and steamed in the bright spring sun. Nor was Mantell the only one to enjoy the scene—the feathered section of the poultry department came out in force, and had the feed of their young (or old, as the case might be) lives on the worms and grubs in the newly turned furrows, which they searched assiduously.

Raffles came over from the greenhouse, where he was transplanting tomatoes, and looked on critically for a few moments. Then he measured the depth of the furrow, dug down into the soil below, and told Mantell to make the man plow deeper. After some argument they got the Squire's man to turning up just a little of the subsoil with each furrow, though he did it under protest, and said "plowin' deeper'n what it had used ter be plowed warn't no way to do."

The Squire had agreed to help Mantell out all he could, but as he found it necessary to plow his own oat fields as soon as Mantell's garden was "fitted," Mantell was obliged to look for help elsewhere. Mantell was very much surprised at the difficulty he experienced in getting any one to help him. Men who for weeks past had seemed to have little or nothing to do, now could not find an hour to spare. Several times he was promised

faithfully by farmers, who did not even let him know that they would not come when the day for which they were engaged arrived. To make matters worse, they found that there was such a poor "stand" of grass on part of the land they had decided to leave for hay, that it would amount to practically nothing. So they decided to plow this and sow it to oats and grass seed, but as a result of his looking into the matter Mantell decided to try one acre out of the three with oats and vetches.

Finally they secured the services of one Jeremiah Fosdick—after a great deal of coaxing, begging and persuading. Mantell was rather suspicious that he had let some other work go to accept this job, and principally out of curiosity to see the place of the city man who was reputed to be doing so many crazy stunts.

Jeremiah was a talker. He seemed to consider his work as merely incidental. He could ask more questions and furnish more gratuitous and useless information per sixty seconds than any two people Mantell had ever met. He was, however, one of those harmless, good natured, New England rural souls with whom it is next to impossible to get angry. He at once assumed himself so naturally to be upon Mantell's level, and took him so personally into his confidence, that such a thing as being indignant did not occur to the former city man.

Jeremiah finished the three acres of sod land with a walking plow and an odd pair of horses, one white, one black, and harrowed it twice over. The fields he left in "lands." The Squire loaned his seed drill for putting in the grass seed, which cost another pretty penny. They got the oats at the grain store at Priestly, as there

was not time to send away for special seed oats. The Squire's fields were green before Mantell's had come up, which displeased the latter greatly, but he had, of course, been helpless until he could get his ground plowed. He made a red-letter mental resolution not to get caught that way again.

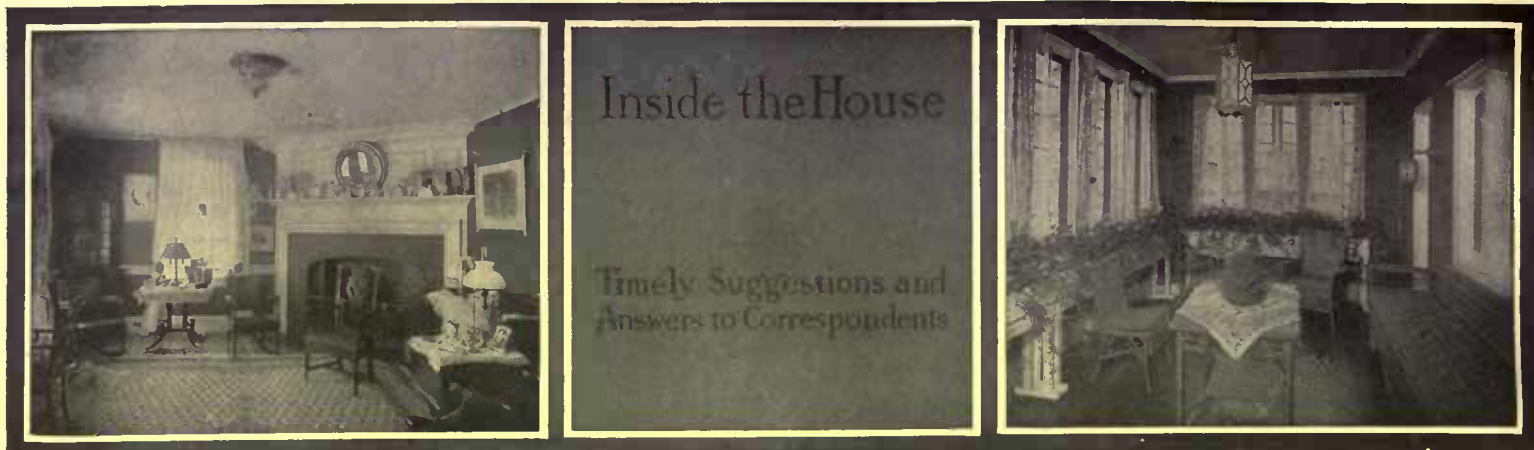
VIII.

The second week in April had come on warm and balmy. The natives were still afraid to plant anything in the garden line, but Raffles was inclined to take some chances. His early peas had been in a week, and he had prepared and sowed quite a good sized bed of onions, while the wise ones shook their heads. When he set out nearly a thousand of the best cabbages, a hundred cauliflower, and a patch of lettuce, the Squire stopped on his way past and said he didn't want to interfere, but that the climate around these parts was pretty tricky, and they mustn't be misled

(Continued on page 78)



Jeremiah, a typical New England countryman, plowed the three acres of sod land



The Editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope

Bamboo Basket Lamps

THE lamp shown in an illustration is made of a bamboo basket; the shade of wistaria caning. From Japan are imported a great number of bamboo and wistaria baskets of every shape and size; the variety is infinite. They may be used in a number of ways, as jardinières, scrap baskets, etc. One of the most attractive uses is to have them made into lamps. Fonts may be made to order at a moderate cost to fit any shape or size of basket. These are suitable for gas, oil, or electricity. The low, squat lamp shown in the illustration, is of brown wistaria caning; the shade lined with a brown rajah silk of rich tone. The taller lamp is fitted in a bamboo basket. The tones of the bamboo are almost orange, and the shade is lined with a delightful tone of orange silk. These lamps were finished without fringe, but fringe may be used where it is more effective. It is best to buy white fringe of a good quality, and have it dyed the color of the lining of the shade. By doing so the fringe will be the exact tone of the lining and a more har-

monious whole will be the result. While particularly appropriate for use in the country house, cottage, or bungalow, these artistic lamps are appropriate and charming for use in the informally furnished apartment, so steadily gaining in popularity; for the studio, or for the den of an otherwise formally furnished house.

The price is moderate, a lamp with the equipment for oil, gas, or electricity, made up to harmonize with the color scheme of any room; may be had for \$15, and upward, according to the size of the baskets and shades, and the quality of the silk and fringe used. The lamps shown in the illustration stand about fifteen inches high, without the chimney, which is only necessary where the lamp is made for oil. These lamps cost \$16.50 each.

To Refinish Painted Reed Chairs

COVER the chair if enameled or varnished with a liquid soap prepared as follows: chip one-half bar of common laundry soap, add one tablespoonful concentrated lye, and two quarts of water. Boil till the soap is dissolved. Remove from the fire and stir in one tablespoonful of kerosene. Apply this mixture to the chair with an ordinary scrubbing brush and let stand an hour or two. Wash thoroughly with warm water and let dry.

This will cut the glaze and allow the following paint to adhere: To ordinary cream colored paint add enough burnt sienna to make it the shade of the lightest part of the mahogany you wish to match, or a little lighter. Carefully apply this to cover every reed in the chair. Reach the difficult places with a camel's hair brush. Let dry forty-eight hours.

For the staining mixture, take burnt sienna and reduce it with common table vinegar till it flows freely. If this is too red, add a little burnt umber. Apply with a paint brush. With the camel's hair brush reach every crevice. Let dry. If you wish to emphasize the grain dip the brush in clear vinegar and wipe out some of the color, always following the grain of the reed. When dry, varnish. For a dull finish apply a small quantity of floor wax, and rub well.

Any willow, reed, or rattan furniture may be treated in this way and compare favorably with those originally stained. Only have patience in applying the stain to every part of the reed.

A Radiator Hint

CUT pieces of wire screen the size of the openings in hot-air pipes under the registers and place one over each opening. This will save the loss of many small articles which can drop through the gratings. It also keeps a good deal of dust and lint from collecting in the pipes.

Turpentine in the Home

WHEN once a housekeeper fully realizes the value of turpentine in a household she is never willing to be without a supply of it.

Turpentine is a sure preventive against moths; by dropping a trifle in the drawers, trunks and cupboards it will render the garments secure from injury during the summer months.

It will also keep ants from the closets



A lamp base made of a woven bamboo basket lends itself well to bungalow furnishing



The wistaria baskets imported from Japan are especially adaptable to lamps

and storerooms if a few drops are put in the corners and upon the shelves. It is sure destruction to vermin and will effectually drive them away from their haunts if thoroughly applied to all the joints of the various articles of furniture. It injures neither clothing nor furniture.

One tablespoonful added to a bucket of warm water is excellent for cleaning painted woodwork.

Turpentine is also useful in laundry work in conjunction with ammonia to remove paint stains from colored clothes. The two liquids are mixed and the stain dipped in and rubbed until it disappears.

An Interesting Living Room

ONCE saw a pleasing combination of just the right things in the living-room of a collector of old Colonial furniture, which contained chairs, sofas and tables of different woods and styles, but the artistic taste of the owner has enabled him to evolve a living-room which embodies all of the restfulness and charm, which one expects to find in a room of this nature. After the dining-room, bedrooms and a small reception-room had claimed their share of the antique hunter's spoils, the collector found himself with only a few mahogany chairs, which did not match, an old sofa and a small mahogany tea-table, with which to furnish his good-sized living-room. Other furniture had to be purchased to fill in until such time as more old mahogany could be lured from some garret or cellar to be added to the other captives. So it was decided to buy some modern copies of the old reliable Windsor chair, stained a dark brown, an oblong table built on straight Mission lines, and some plain wicker chairs, as they could all be used later on to furnish the outdoor living-porch, when they had been crowded out of the living-room by their more worthy successors. So as to remove the whiteness of the willow and give it a softer tone, the wicker chairs were treated to a coat of brown stain, which was partly rubbed off with a cloth, but enough allowed to remain to give the chairs a pleasing amount of light and shade.

The long Mission table was placed almost in the center of the room, directly in front of the fireplace. The arrangement of this table and the furniture was ideal, both for convenience and comfort, and could be followed to advantage in almost every living-room. The sofa was placed with its back against the long side of the table, so that the occupants faced the open fire, and one of the old mahogany chairs was placed at each end of the table, while one of the Windsor chairs stood on the other side. A brass student's lamp stood in the middle of the table toward the sofa. A blotting-pad, paper-rack and other paraphernalia for correspondence, were placed at both ends of the table, while the magazines were piled near the lamp. In this way a number of people could be grouped around the table at one time, engaged in

reading and writing, and at the same time they could all have the benefit of the shaded light and be near the open fire.

So as to bring this heterogeneous collection of furniture into closer relationship, a tawny-yellow color scheme was adopted as a background, and this same color was carried through the over-curtains, rugs, lampshades and cushions for the wicker chairs, as the varying shapes and styles of the furniture would lend quite enough variety to the room. This color scheme was also carried out through the pictures, which consisted of brown prints framed in flat moldings of the same color, and on the mantel rested some old

so arranged that as much or as little air as may be desired can be admitted into the room. It can be merely well ventilated, or both sides can be thrown open, making it practically a piazza room.

The walls are paneled in wood up to the height of the window sills, but the unusual feature of the room is in the treatment of the ceiling and the frieze over the windows. From a factory where ordinary split baskets such as are in everyday use are made, large pieces of the woven or plaited material were obtained. These were put over the ceiling and extended down the walls to the top of the windows, then strips of wood were placed on at reg-



There is an air of fitness in the furnishing of this sleeping porch. The ceiling and frieze are covered with woven basketing held on by battens

brass candlesticks whose polished surface was reflected in the brass trimmings of the old Franklin stove.

It is always commendable to use a one-tone color scheme in any room where it is necessary to combine a number of dissimilar objects, for in this way you can tie the whole room together, so to speak, and the various outlines will blend into the background and not stand out so prominently as when two or more colors are combined.

A Porch Sleeping Room

A SLEEPING apartment, designed by A. S. Barnes, of Los Angeles, Cal., that combines the advantages of the sleeping porch with the comforts of the indoor bedroom, is one of the attractive features of a recently completed house in Southern California.

It is really a built-in porch, with windows that occupy all of two sides. The windows open on hinges, in the same way as the familiar French windows, and are

ular intervals, giving a charming effect of panels.

The plaited splits were neither expensive nor difficult to get, and being left in the natural color they contrasted in the most satisfactory way with the darker tone of the woodwork. Such a room is much too attractive to serve as a sleeping apartment only, and wide awnings that shade the open sides from the light and sun convert it into an equally attractive room for daytime use.

A Kitchen Economy

PROTECTION for a white enameled sink can be obtained by purchasing a wooden mat, which is placed in the sink. These come made of hardwood in various sizes, one for a twenty-four-inch sink costs \$1.50 retail; other sizes in proportion.

If you have an enameled metal drain board, it is well to purchase a rubber mat for it. This costs but a small amount and will soon save its cost in preventing broken glass and china.



Garden Suggestions and Queries



Conducted by
F. F. ROCKWELL.

The Editor will be glad to answer subscribers' queries pertaining to individual problems connected with the gardens and grounds. When a direct personal reply is desired please inclose a self-addressed stamped envelope

March

ON Candlemas Day, according to the good old naturalists, the groundhog crawls out of his hole, takes a look around, and if he can see his shadow, ducks back again.

This reputed performance always reminds me of certain gardeners among those I know. They are too timid to believe that spring will ever come back again until a good part of it is gone, taking with it a large number of opportunities. They forget how the spring work piled up on them last year, and the year before that, and finally utterly crushed some of their fondest plans. The April rush is as sure to hit us all again this year, as that the swallows and the nursery agents will come back.

What can be done now? Well, we use what we call the "work sheet"—new edition the first of every month. On it go all the things that can be thought of to do that month, and all there are left un-

done from the month before, unless they are discarded as impossible for the present. It's a matter of about ten minutes to make out such a list, and then you know how you stand for four weeks to come. When you find yourself with an hour or two to spare, you won't putter around wondering what to do next, but go straight to the job and begin to get results.

Suppose you get a piece of paper and answer these questions right now:

What is there about the place to be fixed up?

What trees or shrubs need pruning or going over?

Where would a new shrub or two add to the individuality and beauty of the place? Remember, they cost only from fifteen to fifty cents apiece. There are any number of fine things for twenty-five cents apiece.

What new plants are needed for the perennial border? Wonderful, orchid-like irises; new phlox, in brilliant colors; a vine or a lily for some bare corner.

Can't we afford a rose garden?

Have I made that confounded garden plan yet? I know it will save me a lot of time and trouble later on.

Is the manure all spread and ready for the plowman? And is he ready to come the first day the ground is dry enough?

Are cabbage, lettuce, cauliflower and beet plants ready for the first warm days?

Is everything ready to get onions, beets, carrots, chard, smooth peas, turnips and sweet peas planted at the first opportunity?

Are the late things—tomatoes, eggplants, peppers, corn, melons, etc.—all coming along under glass, and the harder things getting plenty of air every day?

You see, even with a very small place, there are plenty of things to keep in mind if you expect to get anywhere near the maximum results from it.

Don't think that you can do your work just as well without attempting to keep track of it. You can't. Garden work can never become just routine work. For what you do a certain way this season, weather, soil, some plant enemy, or even varieties, will prevent your duplicating next year. Gardening is a kaleidoscopic art, ever changing, ever turning up new

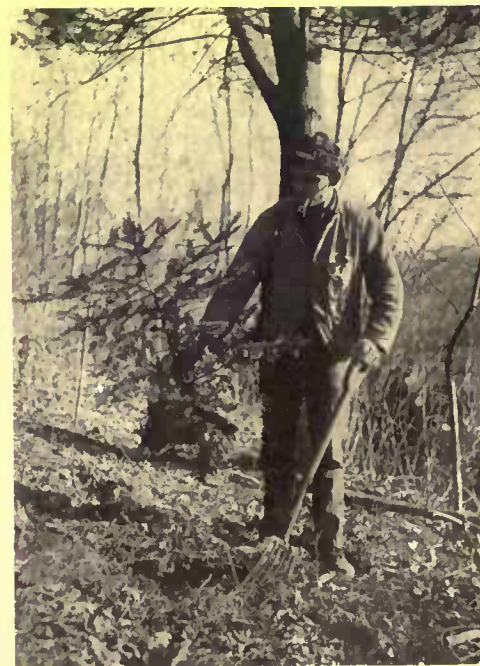
combinations to confound one. Therein lies its never flagging appeal. That is why it is the most entrancing game you can play.

Free Evergreens

THERE are many places near the fringes of big cities, to say nothing of the countless places in small towns, whose owners are within easy reach of the generous nurseries of nature, and yet never think of availing themselves of the advantages offered. Many of our native trees—pine, fir, hemlock, cedar, beech, birch and others—make very handsome ornamental specimens which are to be had for the gathering. You haven't the time? Well, why not take a Sunday afternoon off—you might spend it in many less commendable ways—and bring home a few. Now is the time—the earlier the better. Don't try to get the biggest tree in the woods. Pick out a small, straight, shapely little tree. Take up the roots with as little damage as possible, and where they do



Small evergreens and other trees can often be had for the trouble of digging them



Take the young tree up carefully, to avoid breaking the roots more than is necessary

get broken, cut them off clean. Loosen the soil up thoroughly in the hole in which you are to plant it, and set it deeper, by several inches, than it was in the woods, where the roots probably have spread out shallow near the leaf covered surface. Plant it securely, using your feet to pack the earth firmly about the roots, and put a mulch of old leaves, grass or litter about, to help keep the soil moist when the dry times come.

There are also plenty of ferns, and other plants, such as the wild rose—and in crystalline beauty it has never been surpassed by the hybridizer's products—the wild woodbine, wood violets and many of the other wild things that your fancy may select, which stand transplanting well. Always try to give them a place as nearly like that they are accustomed to as you can—the ferns, for instance, on the north side of the veranda, or wild roses in partial shade where the soil is somewhat heavy.

It is not yet too late to make a cold-frame. Don't say you can't get the material—look at the photograph herewith: the material came from a couple of old packing boxes! And a couple of big storm windows, or any old windows for that matter, will keep out cold and let sunshine in, as well as will any "boughten" sash. Such a frame can be made right on top of the ground, and if you use flats, will not even necessitate taking the sod off. Although it is too late to start cabbage, lettuce, cauliflower, etc., for the earliest outside crop, there are plenty of uses for the coldframe. You can plant melons, cucumbers, corn, potatoes (in flats of sand) weeks sooner than you can out of doors, and thus beat your neighbors on these important things.

And there are your annuals and first-season-blooming perennials to be thought of. One of the most beautiful annuals we have, cosmos, is killed by the first fall frosts nine times out of ten before attaining anywhere near the growth of its glory, simply because it has not time to mature. The moonflower is another too little seen plant, for the reason that whenever out-of-doors the season is just too short for it in our northern States. The new "ever-blooming annual," hollyhocks, you should also try. They grow easily from seed, and sown in March will bloom in July. To lovers of these old-fashioned plants, which in many sections the hollyhock "rust" disease has practically destroyed, they are a find indeed. Then there are many perennials from which, if sown early, you will get flowers this year: gaillardias, Iceland poppies, larkspur (Chinese), Shasta daisy, etc.

Most flower seed is very small—some of it as fine as pepper—and to attain success you must make a fine loose soil, by sifting leaf mold or chip dirt and fine sand to mix with your garden loam—about equal parts of the mold and loam, and sand enough to make it friable, so that it cannot be pressed into a ball in the hand. Wet the soil thoroughly several hours before sow-

ing the seed—taking care that the seed-pan, flat, or pot is well drained—and then dust it over the surface evenly and barely cover, except for the larger seeds such as hardy pinks, gaillardias, etc. Even these should be covered only about an eighth of an inch. Keep panes of glass, slightly tilted on one side, over the boxes until the seeds are up.

For the best results with the wonderful new sweet peas, they should be started early in pots, and set out, planting deep in thoroughly enriched soil. The development of the sweet pea during the last few years has been very wonderful, the flowers being so immense as to be almost beyond belief to the person, used only to the old, smaller flowered sorts, who sees them for the first time. If you try some of these

to blossom, that is what you want. The big forced plants go by very quickly after you have set them out.

In the Vegetable Garden

IF March goes out like a lamb you may get some planting done this month, though in my locality (northern Connecticut) we very seldom get anything out, with now and then the exception of onions and early peas, before April. But be ready to get the ground turned over just the minute it is dry enough—as much for the importance of getting the early work done and out of the way as that of planting the hardy seeds early. Even before the ground thaws, if it was not cleaned up last fall, you should see that all rubbish is gathered and burned or composted.



A coldframe does not need to be expensive in order to serve its purpose. The sides of this one were made from old packing boxes

splendid new kinds—and get the named varieties for best results—put them, if possible, where they can be thoroughly watered during the summer dry spells.

Another little plant you should not overlook is kochia—the summer cypress or burning bush. It grows as easily as a weed, and with a dozen or two nicely started by May, you can decorate any unsightly corner, or make a temporary hedge by the garden or along the path. They are an attractive green during the summer, and turn to a bright burning red with the advent of cold weather.

Another very popular flower for spring planting is the pansy—also greatly improved during recent years. Go to a florist's for your supply if you can, no matter how tempting the street baskets of gorgeous blooms may look. Their plants are raised to sell, while you want plants to grow, and if you can find some one-fourth the size of these—four or five of which will fill a basket—that are just beginning

Have all such little accessories as garden line, plant stakes, labels, sharp tools, seeds, etc., ready in advance, for in uncertain spring weather, a little delay that may make you late in getting a certain sort of seed planted one day, may easily mean that they don't get planted for a week—and it's not a pleasant experience to look over the fence and see your neighbor's beans sending out their second pairs of leaves, while yours are not yet out of the ground.

To those who plant their own potatoes—and it is surprising how many you can get out of a few short rows in a rich garden—numerous State Experiment Station trials have shown repeatedly that sprouting them in full light, twenty to thirty days before planting has not only made maturity earlier, but has increased the total yield in many instances over a fifth, and in some much more than that. When you are planting by hand, these short, stubby sprouts do not interfere at all.



EDITORIAL



WITH March here, comes the first stirring of life outdoors. Perhaps it is but a suggestion—a pussywillow struggling out of its hard, shiny shell or a weak, timorous bird note out of the chill, but nevertheless there is the awakening of anticipation in the glory of growing things. In this betweenwhiles, while we pause half anxiously scanning the sky, fussing with the renovated garden tools or turning fretfully over past garden records, let us have just a few moments of reflection. We urge this half ashamed of betraying sentiment—for to-day the exhibition of feeling is mawkish, effeminate, and reflection is supposed to belong to the bookish or the temperamental and not to be a part with decision. Yet we will out with it; we want just a little time for consideration and then on with the work. Do you grant it? Away with impatience then, we will take up the prospect of our garden year from another aspect.

The Service of the Garden

IF one asked a member of the mob that attacked the Palais de Versailles what his grievance was, he would probably have replied “the cost of living”—if you pinned him to the fact. It was not that he was jealous of the luxury of others, but that he had so little himself. He reasoned that the plenty of the wealthy left little for him.

In those ante-Revolutionary days most of Europe was in the mad rush for a new novelty to kill the deadly boredom that comes from the surfeit of pleasures. People craved gilded litters, and silks and laces; even the conversation went to excesses and was dressed up in affectation and ornateness. So when the latest fad of courting Nature came in vogue and gorgeously arrayed shepherds and shepherdesses masqueraded in a tricked up country side, the jaded amusement seekers wrote of country life in heavy Alexandrine metre and thought that they were leading the simple life.

There is something similar in present-day conditions. We are not oppressed by tyrants, but we are in need of emancipation from the slavery of rush and desire for gain. Every man is prodigal of energy, of time and of money. Dress and luxury love induce even the poorest to live a butterfly existence with no thought for the future, all for the moment of pleasure. The gods of to-day are Size and Quantity. Extravagance runs riot in everything. The fact is that America is amusement crazy, as was Europe before the Revolutionary era.

We too rail against the cost of living, though a few analytic ones claim that to be the effect of a cause, the cost of high living. Analyze it as you will, even with the issues of trust and tariff ideally arranged, with currency reform or intensive cultivation, with all the panaceas for ills of government swallowed and digested, the old fever will come on again until the chase after pleasure becomes the pursuit of happiness.

There was a little known poet, Cowper his name, and he wrote when England was thinking as we are thinking to-day. It was when other writers were addressing Corydon and Thyrsis and apostrophizing hillside and stream with Greek proper names. Cowper sounded a new note that rang true of the outdoors and contained the breath of real fields. He is really our first Nature poet. In the “Garden” written shortly before the French Revolution, he leaves much for us to take to heart. And maybe there is a pertinent suggestion for our troubles, as he too saw the mistake of “The wish to shine, the thirst to be amused.” One would hardly expect to find material for poetry in the manure pile, but Cowper put it into metre (and incidentally gives as accurate an account of the care and making of a hotbed as one would wish).

In the “Garden” there is contained the brief for the sober, restrained, rational life. It is full of the inspiration that the country contains, and even the humblest duties are coupled with something great and lasting, as he sees it. His book acts as a stimulus, especially at this period, for it makes clear that there is a big value in living among growing things. If we realize that in the making of a home and its attributes there is a permanent satisfaction, something really worth while, the trowel digs deeper, the labor is more earnestly undertaken and the fresh happiness of working with hands and heart in unison comes and stays.

“The tide of life, swift always in its course,
May run in cities with a brisker force,
But nowhere with a current so serene,
Or half so clear as in the rural scene.”

A True Recreation

WITH the same hesitancy that we have of showing sentiment, many of us would be reticent of saying that we had taken up making a garden as an avocation. Many men would half expect the retort: “Oh, and your indoor sport for winter is crocheting, I suppose.” The manliness of gardening needs no defense. Example, arguments and authorities are too numerous. We need only mention the bachelor who wrote last month of how it beats the club “all hollow.” But there’s something to say about gardening as a recreation.

Your golf is a good thing; so is tennis or riding or any of our favorite exercises. They do not preclude everything else, however, and they have their limitations. One does get exhilaration, and exercise, a quicker eye and better muscular control. But how long does a particular good remain with us? There is the joy of winning, of course, and one recollects with pleasure certain matches or tournaments. For the most part, aside from physical benefit, the experience ends when the game is finished.

The garden pleasure merely begins with the planting. It is one long sequence of delights with no throwing aside of implements and a “there, that ends it.” The conscious plan goes on with room for improvement each year. As skill increases, and knowledge grows, there is more specialized work to do. We but approach our ideal results.

Then, too, we are little gods. The life we assist in bringing forth comes back to us with each spring. That vine is now a sturdy tenant that we once coaxed anxiously to wind its weakling tendrils to a thread. The puny slip we cared for is now a strong bodied, leafy bush. All the plants that stay with us season after season are embodied memories of our work. Some plants we watch growing and strengthening from year to year; the descendants of the others that die with winter we make more beautiful in color, or in form than were their ancestors. Carefully watching the richest blossoms, we improve by selection, saving the fittest, ruthlessly destroying the rest. Perhaps grown more cunning we breed and train as does the stockman, until a finer kind is produced. And the whole garden scheme, like a tapestry growing with each thread, we aim to make more complete and perfect. For the whole world story may lie within a garden gate, and when we begin to get the realization that there is the same life in the growing garden as in us, we have advanced.

That is the recreation of gardening. Some, as said Wordsworth, believe that there is recreation in its broader sense from the mere companionship with Nature. Perhaps there is; but how much more is there in the active association with growing things, in shaping their development and in creating a thing of beauty.

No-Rim-Cut Tires

Proved Average Oversize, 16.7%

Goodyear No-Rim-Cut Tires are advertised as "10% oversize." And we claim that this oversize adds 25% to the tire mileage.

The actual oversize, over five leading makes, was lately *found to average 16.7%*. Note the table below.

Comparison of Sizes
Between Six Leading Makes of Tires

Rated Size	Make	Cubic Cap'ty	No-Rim-Cut O'ersize	Rated Size	Make	Cubic Cap'ty	No-Rim-Cut O'ersize
30x3	1—No-Rim-Cut	489 in.		34x4	1—No-Rim-Cut	858 in.	
"	2.....	402 "	21.5%	"	2.....	762 "	12.5%
"	3.....	381 "	29.4%	"	3.....	760 "	12.7%
"	4.....	371 "	31.8%	"	4.....	733 "	17.0%
"	5.....	383 "	27.5%	"	5.....	822 "	4.3%
"	6.....	365 "	34.0%	"	6.....	794 "	8.0%
32x3½	1—No-Rim-Cut	637 "		36x4½	1—No-Rim-Cut	1190 "	
"	2.....	603 "	5.5%	"	2.....	966 "	23.0%
"	3.....	577 "	10.4%	"	3.....	1064 "	11.8%
"	4.....	536 "	18.0%	"	4.....	1025 "	16.0%
"	5.....	577 "	10.4%	"	5.....	1055 "	12.6%
"	6.....	546 "	16.5%	"	6.....	1080 "	10.3%
Average No-Rim-Cut Oversize, 16.7%							

Oversize is not measured by calipers. It is measured by air capacity. Air carries the load.

The figures here show the cubic capacities.

Only three tires in these twenty comparisons came within 10% of our size.

That's because No-Rim-Cut tires have the hookless base. Your removable rim flanges, with these tires, turn outward instead of inward. Thus the tire has an extra flare.

Oversize means over-tired. It means extra carrying capacity without overloading.

It means to save blow-outs—to increase tire mileage—to cut down tire expense.

Yet these oversize tires, which can't rim-cut, cost no more than other standard tires.

That's why they outsell all others.

Adopted This Year by 127 Leading Makers

For the year 1910, 44 leading motor car makers contracted for Goodyear tires.

For the year 1911, 64 makers came to them.

For this year we have contracts from the makers of 127 leading cars.

Last year we sold more automobile tires than in the previous 12 years put together.

The sales in late years have doubled over and over, as users have found the tires out.

Goodyear No-Rim-Cut tires now far out-sell any other tires in existence. Our present capacity is 3,800 tires daily.

Done by Users

This overwhelming demand has been quickly created by the men who have used these tires.

Tens of thousands of users told tens of thousands of others how their tire bills were cut in two.

And last year we sold enough of these tires to completely equip 102,000 cars.

Average Saving, \$20 Per Tire

We don't intend to make over-claims regarding these patented tires. The facts alone are sufficient.

With these, as with all tires, the service rendered depends on proper use.

But these tires can't be rim-cut. And statistics show that 23 per cent of all ruined clincher tires have been rim-cut.

That saving is sure.

It is also a known fact that 10 per cent

oversize, under average conditions, adds 25 per cent to the tire mileage.

And No-Rim-Cut tires, as shown above, average more than 10 per cent oversize.

It is safe to say that these two features together, under average conditions, save \$20 per tire.

What We Control

We control by patent the only practical way to get rid of the hooked-base tire.

No-Rim-Cut tires are not hooked to the rims. So you simply reverse your removable rim flanges and let them curve outward.

That gives a resting edge which cannot cut the tire, even when run flat.

It gives an extra flare which permits the oversize.

And it doubles the ease of removing the tire when you need to.

But back of these features lies a tire perfected by 13 years of tests.

Year after year, on a tire testing machine, we have compared formulas and fabrics, methods and processes, until the Goodyear tire has been brought close to perfection.

By actually wearing out tires under every road condition, we have learned how to make the most durable tires.

Double-Thick Treads

Now these tires, if wanted, come with double-thick Non-Skid treads.

That means an extra tread of very tough rubber, vulcanized onto the regular.

This extra tread consists of deep-cut, sharp-cut blocks. They present to the road surface countless edges and angles, causing a bulldog grip.

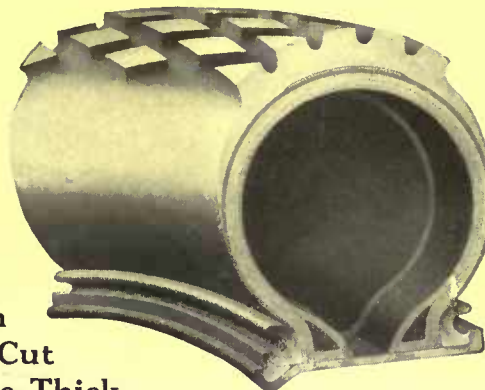
A moment's comparison with other non-skids will show the Goodyear's enormous advantage.

All of these features—each the best of its kind—are found in Goodyear No-Rim-Cut tires.

That's why these tires now dominate the field. Every motor car owner who makes a comparison is simply bound to insist on them.

Our new Tire Book is ready. It is filled with facts, based on 13 years of tire making, which every tire user should know. Ask us to mail it to you.

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Double-Thick

GOODYEAR
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Bayshore, L. I.

comprises over 1,200 acres, including five spring-fed lakes, Venetian Yacht Harbor, one mile long and 175 feet wide, extending from the Great South Bay to the Merrick Road, winding drives and shady walks. Grand old oaks, pines and other ornamental and shade trees, floral plaza, white sandy beaches and bathing pavilion, two piers extending 900 feet into the Great South Bay and all facilities for the fullest enjoyment of



Head of Venetian Yacht Harbor and Plaza at Merrick Road

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Mr. Raynor's house at Mirror Lake, Brightwaters, L. I., is well designed for its surroundings of level grounds and low pines



Within the last few years so much that is architecturally beautiful has been constructed on the developments of real estate companies that it is worthy of note here. The following pages show suburban homes of character on Long Island, New Jersey, New York and Connecticut.



The Bloodgood house at Hewlett, L. I., is a true Colonial type, uniting present comforts with long ago charm. J. Acker Hays, architect



An interesting effect is obtained in this simple house on the Garden City Estates by uniting stucco and concrete in the wall treatment



Another Garden City house that provides ample shade for its occupants in a location where there are as yet no large trees



An example of the American farmhouse type at Garden City Estates. Long Island has revived the building of this old style house



An interesting type of gambrel-roofed house at Woodmere, L. I., patterned after the old Dutch Colonial of the vicinity



A small house at Great Neck Villa, L. I., with half-timber treatment suggestive of a German cottage. Edward King, architect.



The home of Mr. S. Heller at Woodmere, L. I., where its architect, Charles Barton Keen, has constructed many interesting small houses



A house at Great Neck Villa, L. I., that obtains a maximum of space by the use of two dormers. Miss Chapman, architect



This house of Mr. Minton at Brightwaters, L. I., shows the pleasing effect of the jerken-head roof so much used abroad



Shingle-thatch is often used successfully, as in the house of George C. Holten at Great Neck Villa. E. W. Hazzard, architect



In the pine section at Brightwaters many small bungalows have been constructed that approximate the ideal type



This house at Plandome, L. I., was modeled after the now famous Chauncey Olcott house at Saratoga, N. Y.



The Rush residence at Oyster Bay is an exceedingly fine example of a house well planned for its location. The long roof line takes off the apparent height, and the porch arrangement makes cool the rooms on the first floor. Clinton MacKenzie, architect



The faithful reproduction of the southern Colonial is seen in the Charles E. Finlay home at Kensington. Little & Brown, architects



Aymar Embury, architect, shows another example of his interesting designing of small houses in this one at Kensington, Great Neck, L. I.



Shingles as a wall treatment are not so commonly used as formerly, but a successful treatment is shown in this house at Shoreham, L. I.



Plaster seems to be the most successful material for the exposed position on salt water. The residence of William T. Ashley, Shoreham



The variety of the topography of New Jersey has developed a diversity of architecture among its recently constructed houses. A good example of a house well planned for sloping ground is the home of Mr. Albert S. Cox, Brantwood, Short Hills, N. J.



Mr. Charles D. Freeman's home at Colonia, N. J., is well calculated to take advantage of an extended view and an open situation



An interesting house for a timbered location is that of C. R. Tyng, Brantwood, Short Hills, N. J. James L. Burley, architect



The home of S. C. Blair at Gladstone is one of the few that appear well close to the road. The planting outside the fence is interesting



The residence of G. B. Schley at Far Hills is a very successful example of a house fitted well to a hillside location



Mr. Edward Lowry has been pleased to accept the simple, straightforward lines of the style variously described in this magazine as The Northern Tradition or the American Farmhouse type. This style offers various opportunities for different treatments and different localities



The residence of G. R. Holly, Short Hills, H. B. Copeland, architect, is proof that the small house can be good architecturally



The home of Hutchinson Hinkle in Short Hills, N. J., is an interesting variation of the gambrel roofed house in that it has no front dormers



Mr. F. B. Duncan has placed his home at Englewood in a situation shaded with trees and banked by growing evergreen shrubbery



Mr. Jewett's house at Englewood is a noteworthy example of simplicity in the wall treatment of plaster houses



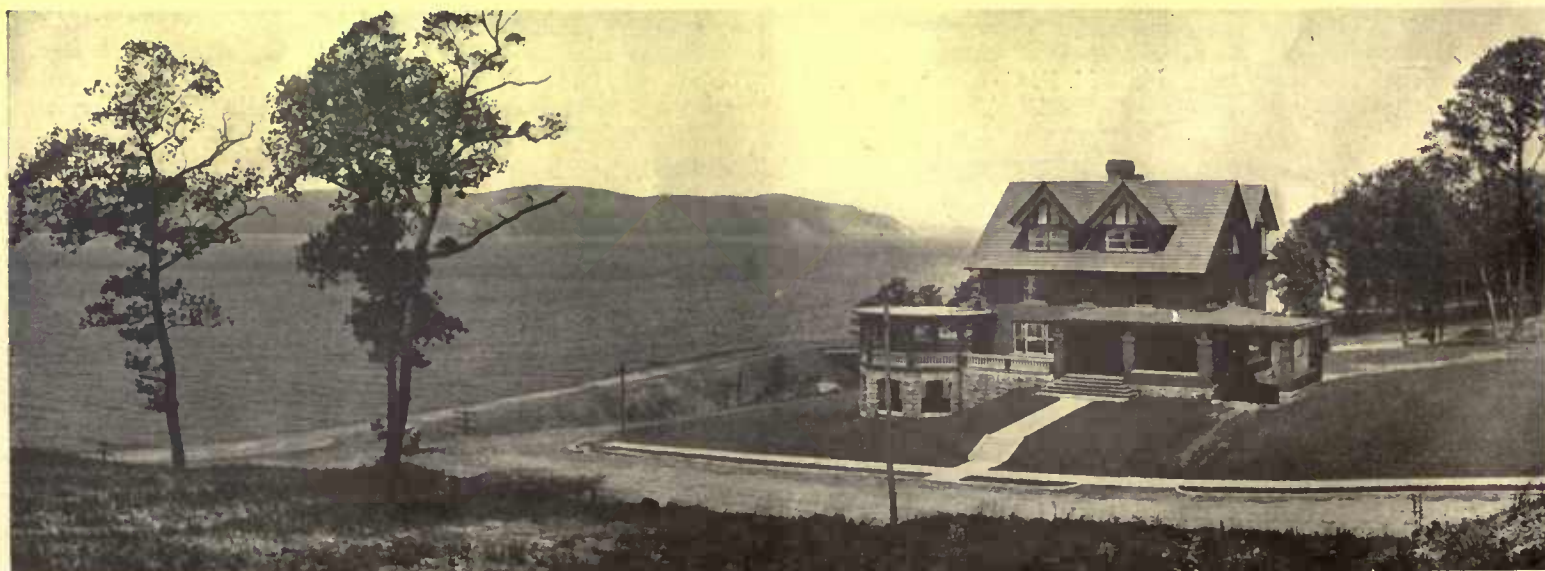
The home of Dr. R. R. Ryan, at Scarsdale, N. Y., is a pleasing American type of the plaster house that had its origin in England and has been developed by such architects as Parker & Unwin. The use of solid shutters beside small paned windows is particularly effective here



The hillside cottage of Mr. S. M. Underhill at Grand View, N. Y., designed by Mr. Freeman



Mr. Doyle's bungalow at Harmon-on-Hudson proves the value of building with native stone found close at hand



The long stretch of river front at Phillipse Manor requires a house with many windows to catch the view and a type of veranda that will enable one to have an opportunity of looking at the river in all directions



The house of Dean Brewster of Barnard College at Scarsdale Estates, N. Y., shows a variety of surface without being disagreeably variant



An interesting contrast to the irregularity of the opposite house is the perfectly symmetrical building here. Reed & Stem, architects



The residence of S. M. Caldwell at Scarsdale Estates is a generous house on Colonial lines but of stucco and stone construction



The home of Thomas F. Martin is a somewhat different treatment that is successfully used for a location similar to that opposite



That half-timber work may well be combined with a local stone foundation is shown here in the home of Mr. A. C. Ayer at Scarsdale



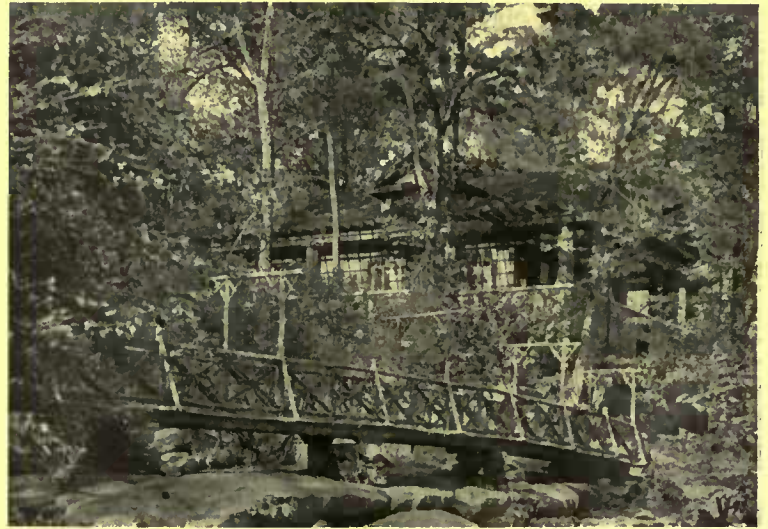
The effect of trimmed stone used to good advantage is shown in the home of Mr. H. M. Olcott at Broadview, New Rochelle, N. Y.



In Connecticut there is many an opportunity to find a home about which the charm of age still clings. An attractive little house near Stamford that was built over a hundred years ago yet is still in good condition and suitable for remodeling



A half-timbered house of good style at Felston, Riverdale-on-Hudson, N. Y., that shows a happy combination of field-stone and timber work



Larchmont Garden has the aspect of the Adirondacks. The small bungalow like this clubhouse is very suitable to such a location



For the shady streets of the vicinity of Stamford there is no more suitable type than the Colonial which is found so frequently there



An attractive concrete house in among the trees at Spuyten Duyvil-on-Hudson. Its lines are simple and straightforward

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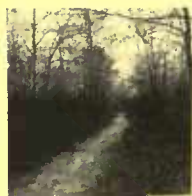
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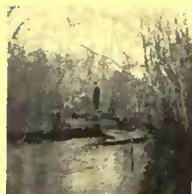
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(Continued from page 5)

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Three or four nest eggs are placed in each nest, and a board is neatly fitted to the front, so as quite to cover the opening and leave the sitters in darkness, except for the cracks along the edges of the box. Even these are curtailed by sacking flung over the boxes, which rest upon the floor.

Having made all these preparations, I lift the sitters from their chosen places as gently as possible and transfer them to the new places and the cold china eggs. My hens are Wyandottes and Rhode Island Reds, very tame and gentle, and they seldom make the slightest resistance. They are shut in the new locations and left for twenty-four hours in the dark and quiet.

Taking the eggs to be set, I go to the coop with corn and fresh water. There is grit on the floor and also litter in which the hens can scratch. I take down the board, push back the sacking and pull all the hens off their nests, placing them near the food and drink. While they are exercising I remove the china eggs and substitute the real ones chosen. As the hens are not large, I set only thirteen eggs under each one during the month of March. After the first of April I set fifteen. By the time these eggs are in the nests some of the hens will begin to want to go back. Even this first morning most of them will find their nests without assistance. If one of them is contrary, I catch her and put her on; but I wait to see whether she settles down on the eggs. This is almost always the case, and I can then shut them in for another twenty-four hours.

Every morning when the hens in the main coop have been fed and watered, I go into the sitting room and pull off the hens for food, water and exercise. They go back of themselves, and are shut in before the eggs can chill. I find corn a model food for sitting hens, and feed it exclusively.

As the floor space is small, I do not let more than six hens out at a time; so in the thickest of sitting-time, when I have a dozen hens on, I release them in two relays. As my hens average rather more than twelve chicks to a sitting, it is not necessary to set more than sixteen hens in order to obtain the two hundred chickens which I fix as my limit.

Since I always plan to have at least three hens come off at the same time, I can divide up the three broods between two hens, giving the two that seem gentlest eighteen chickens apiece, and breaking up the extra sitter.

(Continued on page 62)

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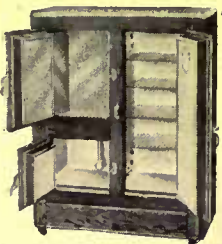
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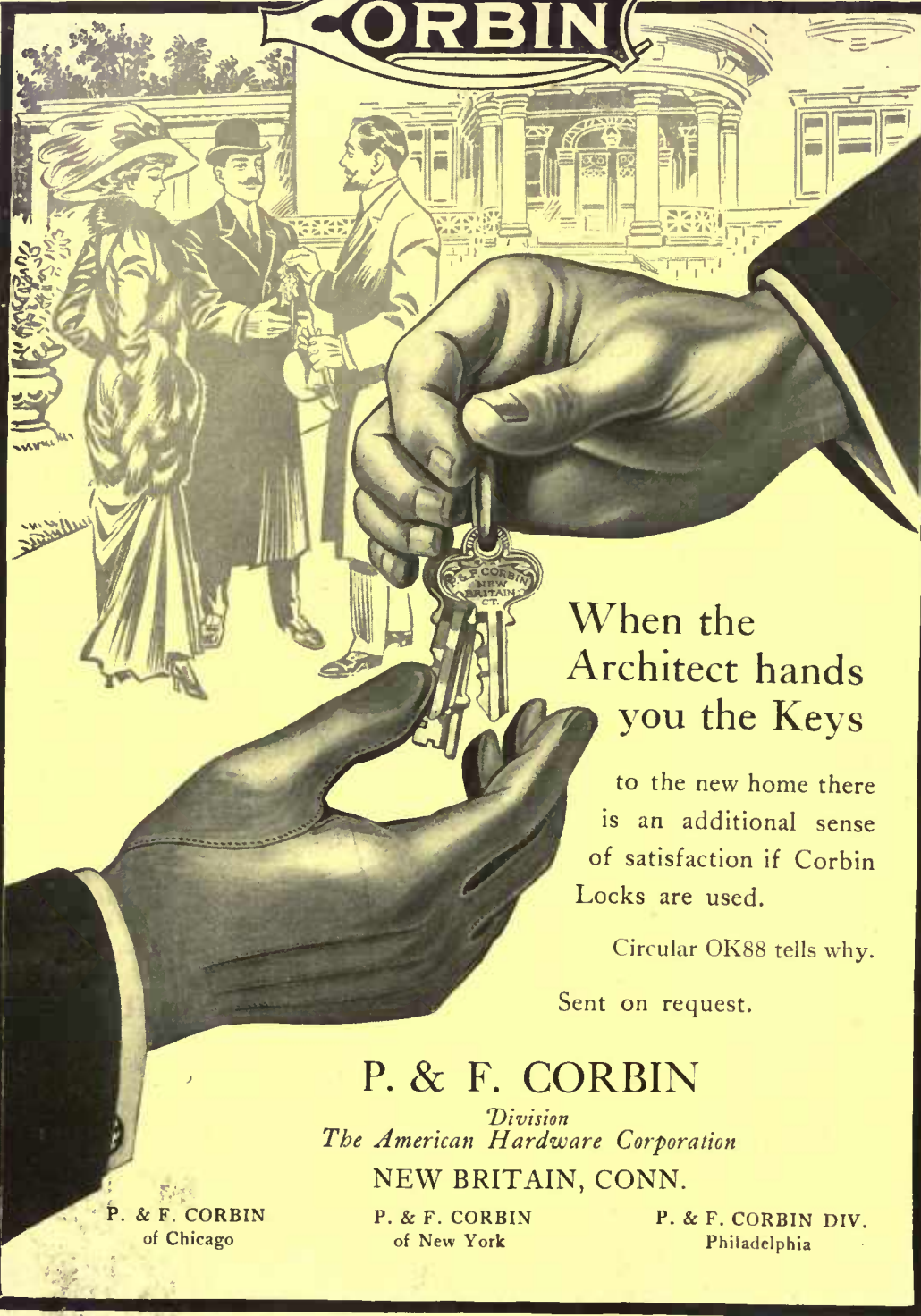
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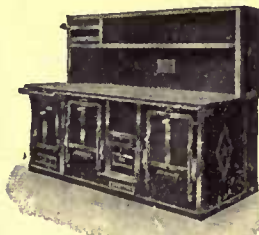
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(Continued from page 58)

For just about four weeks, in late March and early April, I do not dare to put young chickens out of doors in the latitude of Massachusetts, and I have no room in my coop, with its one compartment for layers and one for sitters.

In this emergency I have recourse to an unused wagon shed, quite near the house. It is open at the south side, and has an earthen floor; but it can be made warm with litter, and the sun shines into it beautifully, while a tight roof keeps off rain or snow.

As soon after the middle of April as the weather turns warm, I dare to put even the smallest chickens into their shelters in the open field. By this time rats are active in sheds, having young families of their own for which to provide, and they esteem downy chickens a toothsome morsel to take home for the family dinner. The open field is therefore safer from rats than a position near a barn or shed, and it is also safer from vermin of smaller size than a position next the hen coop.

In the open, then, I have built shelter pens of plank, walled and roofed with tin, forty feet long by four feet wide, and open on the south side. Board partitions divide this strongly-built shelter into four parts, each ten feet long. The open south side of each adjoins a pen ten feet square, enclosed upon three sides by a twelve-inch board set into the ground and surmounted by two feet of fine wire net. Each pen holds fifty chickens, and keeps them safe from cats, dogs, rats and hawks.

At first I allow two hens to each pen, and they squabble more or less, steal each other's chickens and keep up a constant grumbling and complaining. Still, they do no actual harm, kill no chickens, and are really necessary to hover the brood at night. When the nights grow mild, one hen to each pen will answer, and by the middle of June they are better off without any.

The chickens stay in these pens until they are big enough to fly out, about the first of August. I find it is much better for young chicks not to have a wide range. The death rate is much higher where they are permitted to run at large.

They have fresh water in shallow trays, two or three times a day. They eat a dry mash of several grains, so that their food never sours, and there is always plenty for them to eat. They have shade, sunshine, shelter from wind and rain, fresh earth for scratching, green grass and weeds and space enough for exercise.

After the first of August the netting is taken down and they run where they will and live upon whole corn and fresh water. In the autumn I select the fifty best-looking pullets to keep, sell off the others with the old hens and all the cockerels, buy two well-bred cockerels of different strain but the same breed, and move my feathered family into winter quarters on November 1st.

KATHARINE KEIFE



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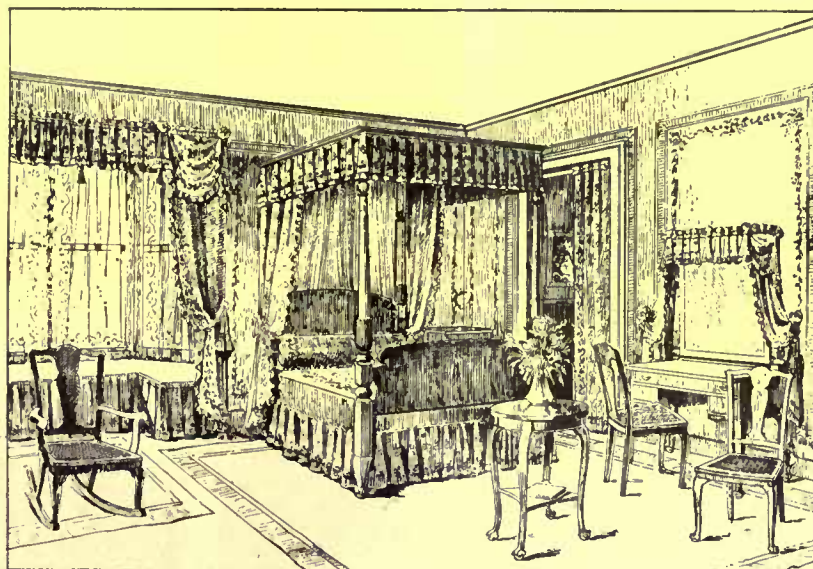
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Six Months of Flowers from Six Plants

(Continued from page 23)

develop. Planted in the fall they will bloom the next summer.

Clematis is seldom thought of excepting as a vine, but there are beautiful bush forms which ought to be used everywhere. Of these *clematis Davidiana* is perhaps the most striking and generally satisfactory. It grows about three feet high and has large clusters of blue flowers that are deliciously fragrant. Ordinary light garden soil suits it, enriched with annual applications of manure. *Clematis recta* is a white flowered variety that blossoms earlier. Single specimens of either of these are effective, having almost the appearance of a small shrub—or they may be massed along a border with delightful results. This blossoms so late that spring planting is possible, without loss of its summer blossoms, but fall planting always seems easier and better to me, even when it is not preferable for cultural reasons.

The hardy pompon chrysanthemums finish the summer with a grand flourish of white and as many yellows, bronzes, pinks and crimsons as there are shades of these colors. Hardest of flowers, they continue blossoming away into November, and even severe frosts do not dim the beauty of the flowers. Give them a well-drained place in any ordinary soil. A single plant will cover a space two feet square, so they need never stand nearer together than twenty inches, if a mass is desired. These alone must be planted in spring if the year's bloom is not to be sacrificed, for they blossom at just the fall planting season.

All hardy perennials should be cut off at the ground when the ground freezes, and a mulch of leaves or straw should be put over them. This is to prevent the ground from thawing again after it has frozen—it is not the freezing that kills or injures vegetation, but the alternate freezing and thawing and consequent heaving—so it should not be done until the frost has taken a deep hold. Then it should be done immediately.



Homes That Architects Have Built for Themselves

(Continued from page 21)

reached directly from the hall, and that three have their own supply of running water or direct connection with a bathroom, and one its own private bath. On the third floor there is a maid's room and bath, a storeroom and a spacious playroom.

The structural features of the house having been thus arranged, the decorative side was undertaken. In this part of the work the principle of avoiding useless ornamental things was adopted and rigidly adhered to. There are no unnecessary

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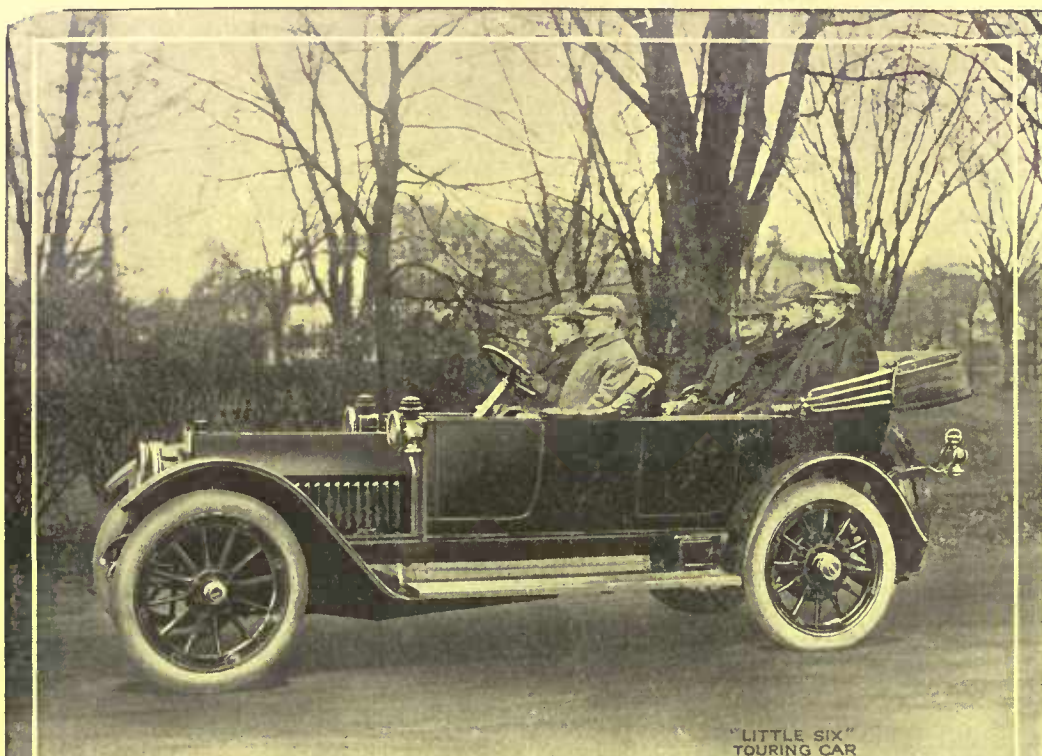


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furbelows either inside or out, or at any rate if there are any there, they have not yet been discovered, nor have they been pointed out to him. His aim was the development of the simplest elements of structure handled as effectively as possible, without the addition of anything for decorative effect only. There is nothing about the house that has no use or a purpose. The wood trim, for instance, is of the simplest possible order and it has even been eliminated inside and out as much as possible. On the ground floor, all the woodwork of the hall, living-room and den is in a gray tan, which gives the effect of extreme age, and the boarding runs from floor to ceiling in the hall and den. All the ceilings are beamed in the simplest possible manner in these rooms, the real beams being encased in chestnut like that of the ceiling, and ash is used on the walls stained to match the chestnut. The dining-room is the exception to this decorative plan and it might be termed the white room. The dado, cornice and woodwork around windows and doors are painted café au lait and the wall covering between dado and cornice is grass cloth in a straw color, while that of the living-room is a mercerized damask in dull gold and tan, running clear to the baseboard.

There is a most original planning of the window fixtures throughout the house. There is not a roller shade to be found anywhere, but all the curtains are case-ment cloth on rods, with separate hangings for the main windows and the smaller transom windows above, as shown in several of the photographs. The floors and staircases throughout are plain oak.

The conspicuous feature of the living-room is the handsome Indiana limestone fireplace of English design with no shelf. It is merely a plain stone opening set into the wall, and at either side of it is a built-in bookcase.

The simplicity pervading throughout the house is shown in still one other detail, and that is in the fixtures. In the dining-room there is as a center light, a gold metal burst quite appropriate to the general scheme of the room, while in the other rooms there are very simple little wall fixtures or ceiling lights with delicately beaded globes.

The sun-parlor has a treatment all its own, as sun-parlors should. Its walls are of plain cement finished like the exterior of the house, and the floor is also of cement, with a brick border around the sides and a panel of red brick inserted in the center. This room, while used as a sun-room during the colder months of the year, and then shut in with glass, is in the summer an open screened porch, and the flower boxes which adorn its roof in the summer are moved inside for the winter, thus doing double duty. The placing of this room where it is and the arrangement for its use throughout the year is one of the strongest elements in the planning of the entire house.

The stucco of the exterior is laid on galvanized metal lath and the walls are so constructed as to give a double air space.

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St. Paul, Minn.

For the roof, Mr. Davis selected green variegated burnt clay tile with a mat glaze and the wood trim is chestnut stained in a dark greenish tone to match the coloring of the roof, so that aside from the neutral of the stucco, there is but one color in the structural elements of the entire exterior. The elimination of woodwork, already noticed inside the house, is also carried out as much as possible on the exterior, and an interesting illustration of this is in the turning of the tile along the edges of the roof and in the use of stucco for the eaves. The trellis work is stained like the wood trim and the metal work is green copper. A little iron balcony off the main stairway is also in a modest shade of green to correspond with all the rest. The placing of the trellis-work is admirably accomplished to fill in the larger blank surfaces of the walls and provides for the running vines which were one of the things that Mr. Davis and his family most desired to have about their house.

Leading from the main approach to the main entrance and then beyond to the sun parlor is a path of brick laid on edge with cement. Along this path is a hardy garden with hollyhocks, shasta daisies, phlox and golden glow, with a bayberry hedge running along its side. On either side of the main entrance is an Italian jar with pyramids of boxwood. Honeysuckle and clematis are on the trellis-work and the window boxes over the sun parlor are filled with vines and geraniums.

There are no shutters on the house, all the windows open outward and all are provided with transom sashes for top ventilation. One of the features of the house which provides the greatest comfort and satisfaction to the family is this extremely simple but effective solution of the window problem both inside and out.

Hot water is the heating agent of the house and in the kitchen is a gas range, but no coal stove. The kitchen has a composition floor with a sanitary base, plain plastered walls, and, like the rest of the house, a minimum of wood trim. The garage in the rear is of stucco and is entirely covered with trellis-work and has pergola ends projecting from the roof. In the course of time it will be covered with a luxurious growth of grape vines.



Modern Bathroom Accessories

(Continued from page 25)

object. The one here considered has the advantages of flexibility, portability and lightness. It folds together after the fashion of a camp stool. Once emptied it can be carried away and stowed under the bed, if necessary.

The shower bath, on the other hand, may be classed rather as an accessory than a fundamental. Of these also there are two kinds, fixtures and portables. The new fixture shower baths are in the form

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of what may be described as a porcelain closet with a glass door. The effect is rather imposing and its installation in some cases reaches the level of interior architecture. That is, where it is actually set into the wall. Once within, it is as if one were hermetically sealed; the flying water does not escape. Among portable shower baths there are new forms, at once ingenious and satisfactory. In the latest examples, the spray is upheld by a standard of sufficient height to be overhead. Out from the circular spray there hangs a round shield of prepared canvas reaching the floor and surrounding the bather. The jets emanate both from the center and arms of the spray. They are of the "pin-point" variety, considered an aid to circulation. The attachment for water connection presents no difficulty. The shower bath resembling the refreshing rain, is, perhaps, the most natural of all; and in primeval days some of our ancestors may have delighted to regale themselves in the drenching downpours.

Of Englishmen it has been said that wherever they might go, you would find them accompanied by a Bible, a copy of Macaulay and a bath. It is not surprising, therefore, to find that from England comes one of the most luxurious ideas in the new accessories. What should one do after a bath? Hurry to dress and away, or linger a while in enjoyment of the glow produced. Physicians tell us to be deliberate about our meals. Might there not be something in being deliberate about our baths? The English idea consists of a combination of a commodious and inviting bath chair of white enameled wicker, the whole being covered by a colossal towel, in the grateful and embracing folds of which one can sit and think—and dry. The Englishman uses this time to peruse his paper and when he jumps up at last, he can throw the news into the white enameled wicker waste paper basket, which is flattened at the wall side, that it may stand close, and curved in front. All that remains is for the bather to weigh himself on the new white scales. They are compact, but sufficient to form a pedestal for the living statues surmounting them. The record is reflected in a mirror set at the proper angle, so it can be read with a mere inclination of the head. All of which is surely convenience raised to the *Nth* power!



Everyman's Poultry Plant

(Continued from page 31)

116 dozen to the neighbors at an average price of forty cents a dozen, making \$46.40 in egg money. From four settings of eggs I raised thirty-five chickens, keeping fifteen pullets for layers next year, and using the others, mostly roosters, for the table. At an average price of one dollar each for choice fowls in the best of condi-

tion, we saved \$20.00 on our own table supplies.

Remembering that the only outlay for the chickens during the year was the \$36 for their food, it is easy to see that my twenty hen proposition, while not exactly a money-making scheme, is at least a profitable and satisfactory undertaking. Of my own time I figure that I spend fifteen minutes in the morning, five minutes at noon and half an hour in the evening. In this fifty minutes a day I can attend fully to the needs of the chickens and at the same time have outdoor work and exercise. Divided up as it is I find that I scarcely miss the time that it takes to keep the family supplied with new laid eggs and the best of fowls for the table, not to mention the egg-money box which never fails to jingle.



Adventures with an Apple Orchard

(Continued from page 28)

well-developed, than two lop-sided ones on the same ground. Generally speaking, this is true; but when I had two trees bearing big crops of apples, each developed toward one side, I left them both, for I need the income.

Read all you can, ask questions of everyone within reach that knows anything, and examine every orchard that you can find. Thus prepared, beg, borrow and steal every atom of common sense that you can lay hands on, and go ahead and trim your orchard. It is curious how soon you learn to recognize the "business" tree.

Mr. West complimented me on my work. Although at complete variance with his own method, which had been to trim up, ever up, he instantly recognized the value of the ideas which I was translating from print to practice. Again I felt that I had scored on him, and my peace of mind needed every bit of advantage that I could secure over Mr. West, for he had forty-five years of successful experience against my three weeks of untried practice. The odds were still disturbing.

When work slackened up on the orchard I began bothering Mr. West with questions about his dairy. I tried to learn to milk. Success with one cow didn't seem to assure it with another. I asked him about the dairy accounts and learned that he didn't keep any, but was sure that the cows paid him well because there was a monthly check from the creamery. Once he had had the milk tested for its percentage of butter fat, and was elated at the high figure. But he had not seen the necessity for measuring the amount of milk given, and when I saw the small pails yielded, I kept my thoughts to myself. The dairy then ceased to interest me because, ignorant as I was about the practice, I knew that he was losing money every day that he kept *those* cows. Score three for the city man.

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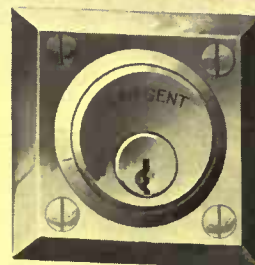
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Dairying didn't pay, but the apple-laden tree looked good to me. I had found holes in the management of the orchard in every branch of the work which I had yet seen. Mr. West knew the practice, but I knew the theory.

I bought the farm. My dreams were realized and *I was a farmer*. I was fairly dizzy with elation, and looked out over "my" fields. The trees were laden with fruit, the meadows rolled up over the hills and the pastures stretched away to the eastward. Of a sudden the full realization of what it all meant came over me and the dizziness was of another kind. I had found certain weak spots in Mr. West's system, but I didn't know enough to feed a horse, to harness him, or to drive him. I scarcely knew a harrow from a sulky plow. The job was put squarely up to me to learn to farm.

Hope Agricultural College has a four weeks' summer school, whenever the Governor isn't too busy building automobile roads to sign the appropriation for its maintenance, and I was enrolled as a student. It was the event of my life. I filled my note books with practical points, but my spirit was uplifted for me. I was shown a new world, and its treasures were unfolded to my gaze. Farming didn't consist of a backache and a small yield of potatoes. It consisted of deep study into the processes of life. It took one into the sciences and carried one deep into the doctrine of evolution. It needed foresight and instant adaptation of methods to meet changing conditions. It compelled grappling with the business methods of the day, to evolve ways to overcome the extortion of vampires. I was not going to rusticate, and I was already wondering where the hours were to come from to permit all this.

When I went back to my farm I plunged right into the busiest season of the year. My note books were stowed away, but nothing could stow the enthusiasm which I carried back from Hope College. I was like the shaving that carries the flame from the match to the kindling. The Faculty of Hope College had lighted the match, and I conveyed the fire to that farm in the hills.



Laying Out and Improving Tennis Courts

(Continued from page 17)

stone gutters, such as are used on tiled roofs. They are laid parallel with the net and filled with loose stones. The drains are tilted sufficiently to carry the water off at the sides or to a receptacle in the center. Sometimes a barrel is sunk in the middle and filled with stones, and the drain pipes empty into it.

Another method common on some courts is to drain them at the ends. In this case the court at the net is two inches

higher than at the ends, and on porous soil this will be sufficient to carry off the water. When the drain pipe is placed near the net the tilt from the ends toward the center should be from one to two inches.

We have more difficult drainage problems in very thick loam and clay soils. Artificial drainage of a more elaborate nature is required here or else the courts will be muddy and sticky for days after rainstorms. Drain pipes must be laid under the courts at various places, and tilted toward one particular point. The open drain pipes are laid down before the trap rock is placed and filled with broken stones so they will not fill up with dirt. Two or three of these lines of open pipe should be placed on either side of the net. They should run from the ends of the courts toward the net and drain into the stone gutter that has been placed under the net. The number of these drain pipes depends upon the sticky nature of the soil. Four parallel rows of them on either side of the net should be sufficient for the poorest kind of soil.

When the drain pipes are laid, and the courts properly leveled with the trap rock foundation, a three-inch layer of coarse gravel or fine broken stone should be spread over the surface. This must be pounded and hammered down and watered. The water will tend to show any weak places where settling is liable to occur, and the depressions thus formed must be filled up with fresh material. When this layer of coarse gravel has been leveled, pounded and settled, the top layer, of sandy loam and clay mixed, should be applied. This finishing layer should be at least three inches thick, and four or five is better. Sandy clay and loam must be mixed for the top dressing, but the proportion of each depends upon the nature of the clay. If the clay is very sticky it will require more sand. It needs to be sufficiently porous to permit the water to pass through easily, and yet not so porous that the surface is too soft. If there is not sufficient sand the surface will be sticky after a rainstorm. For ordinary purposes one part of fine sand to four parts of clay make an ideal finishing surface, but sometimes one and a half parts of sand have to be used.

When the finishing surface is laid it should be leveled off and rolled repeatedly. Watering is also essential, but a good rain will do wonders to settle the surface. Faults and depressions will then develop, and they can be corrected by filling in with new material. Also if the surface is found to be too sticky add a little more sand to the top and work and roll it down. It may take several weeks to perfect the top surface of the court so that it is rainproof.

The construction of a grass court is simpler, for no attempt is made to drain it. The first thing to do is to lift the grass sod as carefully as possible and lay it aside for later use. The sod should be cut down as nearly to six inches depth as possible, and should be lifted in squares of fifteen to eighteen inches. Pile the sod carefully



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on one side and keep moist and partly protected from the hot sun. When the sod has all been removed spade up the soil to a depth of eighteen inches, removing all stones, roots and obstructions. Rake over carefully and roll down to a level, watering frequently and filling in all depressions. When a perfect level has been obtained replace the grass sods.

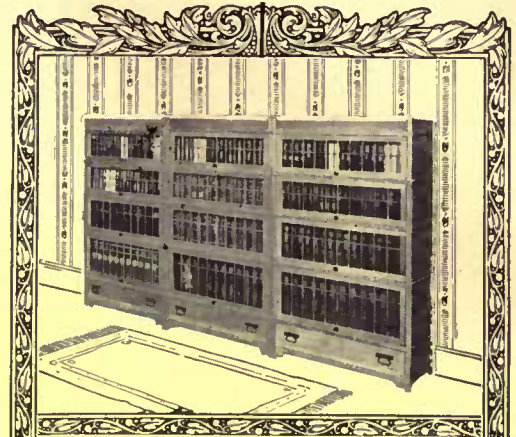
These must be put down carefully so that the edges meet snugly. Open cracks and seams must be filled in with smaller pieces of sod. Roll, water and level the surface until all is satisfactory. Fresh sods may have to be cut and placed wherever thin places appear during the first season. In the spring of the year fresh grass seed may be sown.

If the turf or grass is poor it will be better to omit sodding entirely and sow the surface with perfectly new seed. It is better in such a case to make the grass court in the fall of the year. The winter storms will settle it thoroughly and reveal weak spots. In the middle of March rake up the surface, level, sow the seed and roll carefully. It should be sowed twice from different directions, so that an even catch is obtained. Sowing can be made in the fall or spring. About five bushels of grass seed will be needed for the full-size court. Do not use clover seeds in the sowing, nor guano for fertilizers. When the grass is high enough to cut use the scythe or sickle first, and keep the mowing machine for later cutting. Remove weeds as fast as they appear, uprooting them, or if the roots persist rub salt on them. When the grass is tall enough for regular cutting use the mower at least once a week, and oftener in wet weather.

In many localities worms are very numerous and destructive to tennis courts. By working up to the surface they form little mounds and holes which permit water to trickle through and cause depressions. In regions where the worms are a great nuisance a layer of finely sifted cinders is placed on the stone foundation of the dirt court or at the bottom of the excavation of a grass court. These cinders will keep the worms from working up, but if placed on the grass court the cinder layer must be at a depth of a foot or more below the surface, so as not to interfere with the grass roots.

One should remember that grass courts wear out more rapidly and require more care than those of dirt, especially when they are subjected to constant usage.

The cost of making tennis courts will vary considerably, as one may readily see. As much as \$200 and \$300 is sometimes paid for making tennis courts, but others are made at no greater cost than \$25 where conditions are favorable and one is willing to do some of the work. The hardest courts to make are dirt ones laid on rocky foundations where blasting is necessary. Grass courts that are nearly level can sometimes be made by removing only a part of the sod and replacing it after digging out some of the under soil. This may cost only a few dollars.



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All sorts of devices have been adopted for marking out the court, such as white paint, whitewash, and white tape, but on a grass court none of these are equal to grass itself. At the time the seed is sown on the court plant freely in some part of the garden the seed of the crested dogtail grass. This grass is yellow-green to white, and if sown very thickly it will serve to mark the courts. When the grass on the court is high enough for cutting transplant the crested dogtail grass to the lines marked out.

Mark out the courts exactly with tape or string, and then cut out on either side of it a strip of sod two and a half inches wide. This strip is then filled with the sods of the dogtail grass raised in the garden for this purpose. The sod should be patted down firmly in place, and a few seeds of the dogtail grass sown in with it. In this way you have the courts marked out permanently by grass, and the contrast in color is sufficient for all playing purposes. The effect, of course, is very striking, and far ahead of the courts that have to be whitewashed after every rainstorm.

The dogtailed grass is a hardy grower, and it will if not controlled spread out into the court itself. This, however, can be prevented by an occasional weeding. It must be kept in its narrow strip even if roots have to be pulled up at times. If the spreading roots crowd out the green grass, the latter can be renewed by planting a little sod from some other part of the garden.

A fact not always appreciated by amateurs in laying out tennis courts is that by laying the courts due north and south, the disadvantage of playing with the sun in the eyes is avoided. When laid east and west one player must always face the sun, which, of course, is a handicap. If the court is laid north and south the sun is never in the way either morning or afternoon.

A grass tennis court of this kind, with back nets to keep the balls from going too far, covered with climbing vines or flowers, adds so much to the appearance of a garden that other improvements are sure to follow. A series of rustic benches for spectators should be arranged on the west side, so that they can watch the afternoon game without having the sun in their eyes. If the land is rolling and hilly, the benches should be placed on a terrace at one side.

A tea house made of rustic work is a great addition to a tennis court. This may be nothing more than a rustic covering to protect the heads of the spectators, with seats and a rustic table for serving the tea. If it is built on a terrace on the west side of the court visitors can watch the game under the most comfortable circumstances, and the game can continue while refreshments are being served.

Tennis parties are very popular among the young, and invariably a match game or a series of games is followed by the serving of refreshments. The tea house then becomes the center of attraction and well pays for itself.

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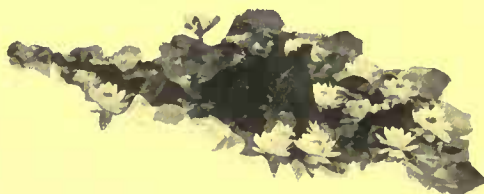
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Aymar Embury II, Architect, Englewood,
N. J.*

You are Sure of Cabot's Shingle Stains

They have been the standard for more than twenty-five years, and are specified by nine-tenths of the architects, who know them from experience. Their colors are soft, rich and beautiful, and guaranteed fast. Their vehicle is Creosote, which thoroughly preserves the wood, and they contain no kerosene or other cheapener. Why experiment with unknown stains, when you are *sure* of Cabot's? If a substitute is used on your house you are the loser.

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Manufacturing Chemists
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Victorias, Egyptian Lotus, Sub-Aquatic Plants
and everything for the

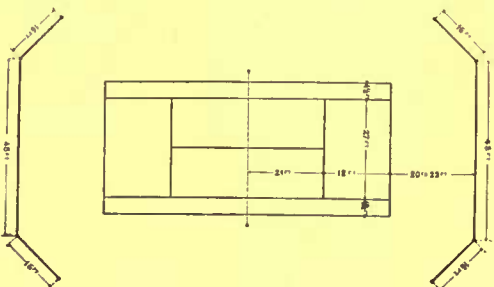
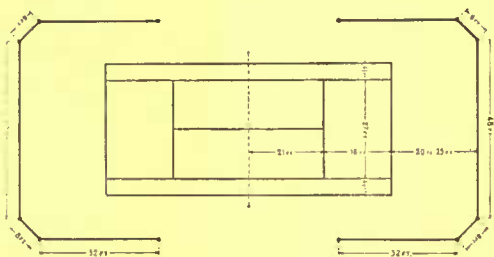
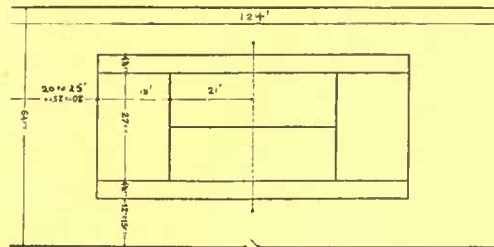
WATER GARDEN

These are the orchids of the outdoor garden, gorgeous and rich in color beyond comparison, embracing white, reds in all shades to deep crimson, yellow to orange, blue from the palest to royal purple. Exquisite in fragrance and varied in size; adapted to culture in tubs (half-barrels), pools, fountain basins, natural or artificial ponds and lakes; requiring the minimum amount of labor, care or attention. Can be grown by amateurs and professional gardeners in the smallest garden or public park. Send for Catalogue and any desired information.

WILLIAM TRICKER
Water-lily Specialist
ARLINGTON :: NEW JERSEY

The tennis court should not be inclosed by trees on all sides. That is a mistake commonly made. The trees should be planted only on the west side of the courts, and not on the north and south sides. The foliage of the trees hampers the players in seeing their balls, especially toward night. The balls stand out more clearly against a background of blue sky than a background of green foliage. The trees on the west furnish shade without thus interfering with the players.

If trees crowd too closely to the court they make the surface damp, and in wet weather it may be impossible to play for days at a time. If the court is free from shade on the east side, the morning sun



The above plans show three different shapes of backstops. Court dimensions are also indicated

will dry up the courts after a rain, so that playing can be resumed in the afternoon.

All of these points in laying out a tennis court may seem simple and plain to any one when consideration is given to them, but failure to observe them often causes an endless amount of annoyance. For instance, one of the best tennis clubs in the country had its courts laid out running east and west, and the difficulty of playing with the sun in the eyes caused so much trouble that they had to be rebuilt. Expert players refused to enter matches on the courts. There was no reason, except oversight, why they were laid out wrong in the first place.

TILES

Make the fireplace the focus of the room



Above all things the fireplace must be attractive, because it is the spot around which the family gathers.

In most cases the first reason for using tile is a sanitary one, but in the case of the fireplace it is an aesthetic one. You put tile around the fireplace for beauty. Incidentally it is a good protection against fire. You use tile because it is burnt clay, and both in color and texture suggests an association with fire.

We have prepared four booklets: "Tiles for Fireplaces," "Tile for the Bathroom," "Tiles for the Kitchen and Laundry," "Tiles on the Porch Floor," which we send free to home builders. You would do well to read them before perfecting your plans.

**THE ASSOCIATED TILE
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WORLD-famous
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Fruit Trees, Shrubs,
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Hardy Plants.

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Write for our 72nd Annual Guide Book
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Mount Hope Nurseries, Box 20, Rochester, N. Y.

Another club which had its grass courts laid out with a dense growth of trees a few yards back from the courts on the east side finally came to the conclusion that they either had to rearrange the courts or chop down some of the trees. The morning shade of the trees kept the courts from drying up quickly so often that the players got disgusted. Beautiful mornings after a rainstorm would dawn, and the players would anticipate fine afternoons of tennis. But the courts were too wet until very late in the day.

Like everything else, there is a right and wrong way of laying out courts, and if one is doing it as a permanent fixture of the garden a little care and attention to these details will add a hundred per cent. to their value and increase the comfort of players and spectators.




The Mathematical Spider

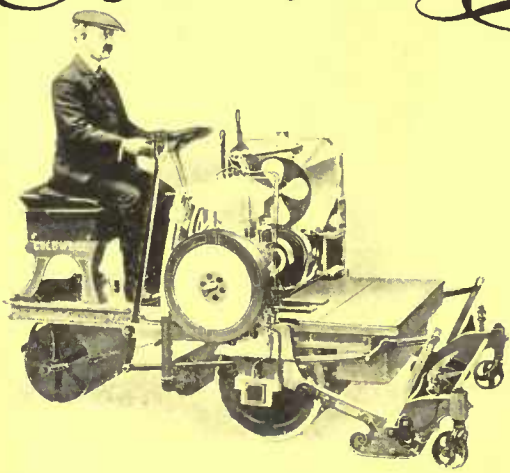
(Continued from page 19)

Edwards took time enough from his gloomy philosophical writings to notice how spiders did this to get from place to place. It is not an unusual thing, especially on October evenings, to see spiders relying upon the air to carry them from place to place. They climb up to the top of a fence post and uptilting the abdomen exude the thread liquid from their spinnerets usually in one or two fine threads. As the breeze pulls these out to greater length they have the buoyant effect of a balloon and soon the spider, gauging this carrying power, lets go of the post, reaches up and grasps the filaments in his claws and goes sailing off in the air as some experienced aeronaut.

With his web constructed, the spider sets about getting his prey, and it is not simply a matter of waiting until an insect becomes entangled. In the vertical web one commonly sees the animal head downward, seated at the hub of the web and grasping a radiating line in the claws of each of his eight legs. In this position the slightest touch is telegraphed him, and he can immediately tell from the vibration where the insect is struggling. When anything does touch the net the spider is seen to twitch with a great muscular exertion, and appears to be jerking the lines and making the web vibrate. Superficially it would appear that the purpose of this was to involve the victim still more in the meshes of the web. Later investigation, however, has gone toward proving that the spider tells the nature of the disturbance by these motions. If a stick or twig fall in the net, the spider will notice at once that there is no answering activity to his jerk, and will proceed according to his perception that the disturbance is caused by something that is not prey. When, however, the jerks on his line advise him that a quarry is snared, he leaves his position at the hub, often carrying a drag line from its central point, and proceeds, some-



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WITH CUSHION COMPLETE**

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permits you to select pleasing and attractive designs for everyday table use as well as candelabra and vases for ornamental purposes and the boudoir.

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is guaranteed, when used under like conditions to last twice as long as ordinary glassware. It's the lowest priced glassware made, quality and durability considered.

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NEWARK,
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ON EVERY
PIECE



times cautiously, sometimes with a swoop, upon his prey. This he pierces with his fangs, and then revolving the insect, he swathes it in a broad band of silk from the spinnerets. This is done in an incredibly short time, the jaws and forelegs turning the captured creature in the floss until it is entirely covered. The drag line is then of use to climb up, carrying the food to the web-center, as it saves the net from being injured to any greater extent. The spider merely sucks the juices from its captive and throws the dry shell away. After the meal there is the work of repairing the web, which is almost certain to be torn from the struggles of the insect.

Trapping is the spider's sole means of livelihood. He is not apt to move his snare when he finds the food scarce, but waits on and on, often for a long time without reward. The rain twists and tangles his web, animals plod through it and man wilfully destroys it, still he rebuilds it and waits, working indefatigably for the future. This is the strange thing about the spider that makes him different from all the other animals but man. He must fabricate a means to catch his food. Whether it is instinct or cunning that tells him how to weave and where to place his web, one must stop to wonder, for he seems to have almost human judgment. He will sometimes weave fenders of twisted lines to protect his snare from larger creatures than he can capture, turning them away before they strike the web. He will sometimes spin out guy lines to brace it against the wind. There is one variety of spider that spins a web in triangular shape. It corresponds to three or four segments of an orb web, converging to a point and there drawn out as a single thread. This the spider drags upon and holds, allowing the slack to drop beneath him. When an insect strikes the web the spider releases his hold, and the elasticity of the threads causes them to snap back quickly and entangle the insect. It is just like lying in wait and springing a snare, and seems to require more than cunning.

So one might go on enumerating the wonderful things about the spider—not the great hairy ones of tropical jungles, but your own little garden neighbor. And surely your garden should have educated you to be beyond fear, loathing and prejudice. A garden will do just that, and just as it has brightened your eye and cleared your vision, it should have swept away the prejudice against the spider as a "horrible, nasty, poisonous varmint—ugh, take it away!" There is much more in your garden, you must admit, than the plants; the birds are part and the spiders are part. You'll believe it when it is warm again and the morning sun reveals to you the great glistening diamond sunburst hanging between the hollyhock stalks or the pickets in the fence. If you wish, the spider may become a very interesting companion indeed.



The Roots That Make the Difference Between Good and Indifferent Barberry

YOU'LL be mightily pleased with my Japanese Barberry—it's the good kind. I transplant every one three times. That gives them masses of fibrous roots that will make them fairly shoot ahead. You don't have to nurse them along; they'll grow as much this year as the common sort would in two or three years. The branches are good, too. I cut them back twice a year, making stocky, bushy shrubs—every one a specimen.

Let Me Send You Plants for a Barberry Hedge "on Approval"

Pay for them if you like them; if you don't, send them back, at my expense. The best size to buy is 1½- to 2-foot stock (plant 18 inches apart) at \$20 a hundred, fifty for \$10, ten for \$3. These are fine, showy plants.

Escape the rush and be sure of getting your hedge when you want it by booking your order now—shipment when you desire.

FREE.—My brochure on hardy shrubs, a helpful handbook, beautifully illustrated, describing and pricing "every shrub worth growing." Write for it TODAY.

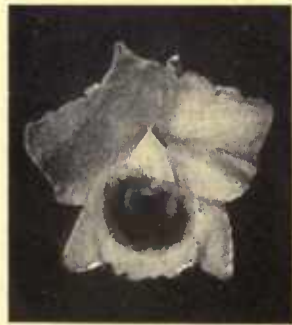
FRED HAXTON, Nurseryman
4719 Winthrop Ave., Edgewater, Chicago

This is the kind of hedge my Japanese Barberry will make—it will save you three years of waiting.



ORCHIDS

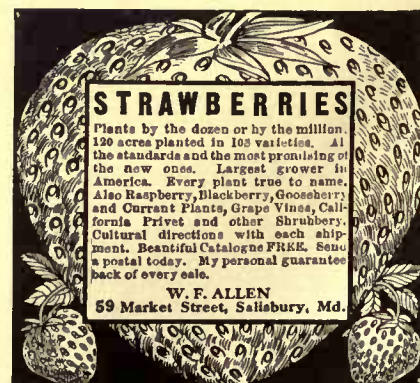
We are specialists in Orchids; we collect, import, export, grow and sell them exclusively. If you need orchids for your greenhouse or conservatory, write us. Visitors always welcome.



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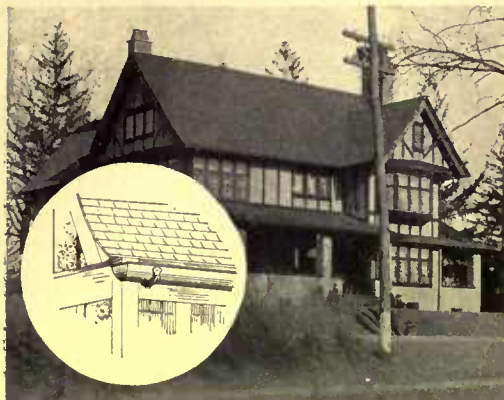
SUMMIT, N. J.



STRAWBERRIES

Plants by the dozen or by the million. 120 acres planted in 101 varieties. All the standards and the most promising of the new ones. Largest grower in America. Every plant true to name. Also Raspberry, Blackberry, Gooseberry, and Currant Plants, Grape Vines, California Privet and other Shrubbery. Cultural directions with each shipment. Beautiful Catalogue FREE. Send a postal today. My personal guarantee back of every sale.

W. F. ALLEN
59 Market Street, Salisbury, Md.



Although cast iron, these indestructible gutters do not look any heavier than those of tin or copper. They are made in two styles. This is the hanging one. The moulded face is more ornamental.

PUT THIS GUTTER ON YOUR HOUSE

IT IS INDESTRUCTIBLE

THE gutters on your house being up out of reach and out of sight, you can't tell whether the paint is on or off, and first thing you know they are leaking and the side of your house is all streaked.

You endeavor to get every other part of your house as lasting as possible, so why make an exception to your gutters—one of the most important of items?

England has experimented with the same kind of gutters we make for two centuries or more. So you are not endangering your house by trying out some new fangle thing.

They are made of cast iron. A high grade iron cast smooth, straight and of uniform thickness. They will outlast the best copper gutter you can buy, and won't begin to cost as much.

They form an ornamental feature of the eave—are easy to erect—need no repairs.

Let us send you short lengths of each kind of gutter at our expense. We want you to see the gutter itself, and we will leave the rest to your sense of the practical.

Send for circular and along will come the gutter lengths.



Half Round Hanging Gutters are made in 6 foot lengths and in two different sizes.

HITCHINGS & COMPANY
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STRAWBERRY PLANTS

I care not how many berries you are getting per acre, if you use my plants, you can get more. I have devoted 21 years to up-breeding and improving the strawberry. Each year I have produced new and more productive strains.

THOMAS PURE BRED PLANTS

are prolific bearers, guaranteed true to label. Cost no more than "average quality" plants. This one thing I do—I breed strawberry plants, have 800 acres. I will select varieties best suited to your soil and climate. Send for my 48 page Strawberry Book. Contains 66 superb engravings. Tells how to plant, cultivate, market. Write to-day. It's free.

The Strawberry Plant Man
W. W. THOMAS, 276 MAIN ST., ANNA, ILLINOIS.



The Planting Month for Roses

(Continued from page 33)

with great care, as an overdose will work injury. Wood ashes may be used as a top dressing after the first spring cultivation—which should be only one of numerous cultivations, as the loose top soil is an admirable mulch.

Roses should be ordered early. If they happen to arrive before the ground is prepared for them, they can always be "heeled in" somewhere in the vegetable garden. If this is not possible, place the plants, upright, in the cellar and put a little earth over the roots. Let them have air circulation and enough water to keep from drying. Before planting it will do the roots good to soak them in lukewarm water or thin mud for about an hour.

As for the best varieties of roses to order, that opens up a vast subject on many points of which rose growers will never agree. It is safe to say, however, that the best all-around type of rose for the garden is the hybrid perpetual, sometimes called hybrid remontant. It stands the northern winter most surely and can be depended on for a wealth of blossoms in season and a few out of season. This forms the largest and most important group of hardy roses. Its hardiness, combined with the blossoming capacity of the tea, is chiefly responsible for the growing class of everblooming hybrid tea-roses. Among the most satisfactory of the roses of these two types are:

Hybrid Perpetuals

Baroness Rothschild.....pale pink
Alfred Colomb.....cherry red
Louis van Houtte.....crimson
Anne de Diesbach.....carmine
General Jacqueminot.....red
Gloire de Margottin.....red
Mabel Morrison.....white
Mrs. John Laing.....pink
Paul Neyron.....bright pink
Marshall P. Wilder.....crimson
Ulrich Brunner.....crimson
Prince Camille de Rohan.....maroon
Giant of Battles.....crimson
Perle des Blanchés.....white
Captain Christy.....pale pink
Frau Karl Druschki.....white
Magna Charta.....red

Hybrid Teas

Gruss an Teplitz.....red
Killarney.....pink
La France.....silvery pink
Liberty.....crimson scarlet
Kaiserin Auguste Victoria.....white
Caroline Testout.....rose
Richmond.....crimson scarlet
Königin Carola.....rose
Souvenir du President Car-
not.....soft rose
Mrs. Aaron Ward.....yellow
Mt. Maryland.....pine
Souvenir de Wootton.....deep rose

The ordinary tea roses are hardy in parts of the North if banked with earth or covered thickly with leaves held in place by chicken wire or a box. In my own gar-

Sweet Peas

With our five farms in Pennsylvania, New Jersey and California, we have the largest, most complete trial grounds,—“to prove all things.” We were the first in America to grow “SPENCERS” and have to-day the choicest strains of these magnificent, gigantic, waved Sweet Peas. Unlike seeds generally sold, Burpee's Re-Selected Stocks come absolutely true both to color and to superb SPENCER type.

Six Superb Spencers

For 25 Cts. we will mail one regular packet each of FLORENCE NIGHTINGALE, the largest and best lavender; CONSTANCE OLIVER, rich rose pink on cream; MARIE CORELLI, beautiful, brilliant crimson; PRIMAPOSE SPENCER, the best primrose; SENATOR SPENCER, claret flaked on heliotrope; and W. T. HUTCHINS, apricot overlaid with blush pink. These Six Superb Spencers are shown painted from nature on pages 109 and 110 of Burpee's Annual for 1912. Purchased separately they would cost 65 cts., but all six packets, with leaflet on culture, will be mailed for **only 25 cts., five collections for \$1.00.**

Six Superfine Spencers

For 25 Cts. we will mail one regular ten cent packet each of AURORA SPENCER, orange-salmon flaked; HELEN LEWIS, rich crimson-orange; KING EDWARD SPENCER, glossy carmine-scarlet; Mrs. C. W. BREADMORE, picotee edged pink; Mrs. HUGH DICKSON, lovely pinkish apricot, and a large packet (80 to 90 seeds) of Burpee's Best Blend for 1912 of SUPERB SPENCER SEEDLINGS. Leaflet on culture sent with each collection.

Six Standard Spencers

For 25 Cts. we will mail one regular ten cent packet each of APPLE BLOSSOM SPENCER, rose and pink; COUNTESS SPENCER, the best pink; GEORGE HERBERT, rosy carmine; Mrs. ROUTHAIN, buff suffused with rose; QUEEN VICTORIA SPENCER, primrose flushed pink, and TENNANT SPENCER, rich rosy purple.

25 Cts. buys any one of the above three collections, any five collections for \$1.00 and mailed to different addresses if so ordered.

For 50 Cts. we will mail any two of the above collections together with a 15-cent packet of the most gorgeous, new THOMAS STEVENSON, making in all thirteen packets of SUPERB SPENCERS for **only 50 cts.**

For \$1.00 we will mail all three collections, neatly boxed, and also one regular packet of THOMAS STEVENSON, the charming new GLADYS BURT, the dainty ETHEL ROOSEVELT and BURPEE'S WHITE SPENCER, making in all twenty-two true Spencers for \$1.00, together with our leaflet on culture and paper on the Spencer Type of Sweet Peas.

BURPEE'S ANNUAL FOR 1912

This “SILENT SALESMAN” of the World's Largest Mail-Order Seed Trade is a Bright Book of 178 Pages. It tells the plain truth about the Best Seeds that can be grown,—as proved at our famous FORDHOOK FARMS—the largest, most complete Trial Grounds in America. Handsomely bound in lithographed covers, it shows, with the colored plates, Six Specialties in unequalled Vegetables, and Nine Beautiful New Flowers, including the most superb “Spencer” Sweet Peas. It is a Safe Guide to success in the garden and should be consulted by every one who plants seeds, whether for pleasure or profit. It is **Mailed Free** upon application. Shall we send YOU a copy? If so, kindly write to-day, naming HOUSE & GARDEN, and address

W. Atlee Burpee & Co.
Philadelphia

Madam, you need not fear to let the sunshine through these draperies.

Constant exposure to the strongest sunlight cannot dim the beautiful colorings in Orinoka-Sunfast Drapery Fabrics, nor will washing fade them. A "money-back" guarantee of this accompanies every yard you purchase.

ORINOKA GUARANTEED SUNFAST Fabrics

for Draperies and Coverings

are the only drapery fabrics that can be so guaranteed. With this very pronounced advantage they combine beauty and variety of weaves, colorings and designs in unsurpassed degree.

For curtains and hangings, window seats or upholstery, there are fabrics in this complete line to meet every requirement and gratify the nicest taste. Sold by leading stores everywhere, and distinguished by the Orinoka-Sunfast guarantee tag on every bolt.

The Orinoka Mills

PHILADELPHIA
NEW YORK CHICAGO
SAN FRANCISCO

Modern Gladiolus 25 Bulbs, 30 Cents

For only 30 cents I will send you 25 assorted flowering size bulbs of Gladioli. My flowers took first premium at State Fair in 1911. My specialty is Groff's Hybrids and Silver Trophy, the most beautiful, vigorous and prolific strain in the world, but I am constantly adding the best to be had from all sources. I also sell mixed and named sorts of all leading strains and at lowest prices. List of named sorts and mixtures with full directions for growing, on application.

GEORGE S. WOODRUFF
Box G Independence, Iowa

den they have wintered with virtually no covering. Good varieties are:

Maman Cochet.....pink
Perle des Jardins.....yellow
Safranosaffron
Bonsilenerose
Papa Gontier.....red

In the ever-blooming Bourbon and China class, Hermosa, an old-time pink variety, is especially good. This and the polyantha roses are fine for giving the edge of a rose border bloom throughout the summer.



Naturalizing of a City Man

(Continued from page 35)

by appearances of good weather.

Three days later, it suddenly turned cloudy and cold, with a rising north wind, and that night at the store the knockers held funeral services over Mantell's early "gardenin'." But the proverbial luck of the beginner had been with Mantell. The little plants had had time to get hold, and the morning after the freeze was cloudy, so that they thawed out gradually, and while a number of the lettuce dropped out, the cabbage and cauliflower, which had come safely through two or three light frosts before being set out, were not injured at all.

With the following week, the spring work was on them with a rush. The team had to go to Priestly almost every day with plants, which two of the hardware and seed stores sold for Mantell on commission. There seemed to be no end to the garden work, and several things, which Mantell now saw clearly should have been attended to before, took time which could ill be spared. There was pea-brush to be cut and hauled and put in; and bean poles to be obtained for use a little later, and a most aggravating job of fixing fences which had fallen through neglect into an almost useless state.

And then there was the perpetual interruption of customers coming for plants. Those who wanted several hundred came and took them away without much ado, for they had work to be attended to, but the person who wanted a dozen or two for the family garden usually insisted on looking over the whole place, and picking and choosing and re-choosing, until it was with great difficulty that Mantell kept an even temper. He was pleasantly surprised to see how many plants were required to make up the number of small orders they got, and astonished to think that no one in the vicinity had grown them before, as the nearest greenhouse was several miles the other side of Priestly. Of course without Raffles he would have been entirely at sea, but there were plenty of men in the neighborhood who could undoubtedly have succeeded at it with one or two



I'm the Bay State Coating Man

I want you to know BAY STATE BRICK and CEMENT COATING is being specified by the leading architects and contractors not only as a coating on cement, stucco, and brick surfaces to protect them against moisture, but on high-grade interior work on both wood and plaster.

When you need a coating for cement and want something that will stand up and give protection and durability, also a pleasing finish, use the BAY STATE BRICK and CEMENT COATING, which is the result of research and experimental work for more than a decade. Wherever it is used on stucco, concrete, wood, or plaster, it stands up better than any other. You know how necessary it is to protect concrete surfaces against dampness. My coating is damp proof and gives a pleasing appearance without destroying the texture of concrete, and in addition is a fire retarder.

Write for particulars about BAY STATE BRICK and CEMENT COATING. Address for Booklet No. 2

Wadsworth, Howland & Co., Inc.

Paint and Varnish Makers and Lead Corroders

82-84 Washington Street

Boston, Mass.

Send for Photo Pictures and **Free** prices of our beautiful roses. Park Rose Gardens, Altoona, Pa.

BEAUTIFUL ORIENTAL RUGS

are hard to buy at the right prices. Antique weaves are so scarce that the casual buyer finds it hard to get them at any price. It is my hobby to pick one out of a thousand rugs through several channels, and my collection is yours to select from. My antiques are thick, lustrous, and far superior to new rugs. I send rare antiques on approval, paying expense both ways. Write for free booklet and price list.

L. B. LAWTON, MAJOR U. S. A., Retired
100 Cayuga Street, Seneca Falls, New York

seasons' practice added to their general knowledge of gardening. Why had none of them attempted it? Possibly because the most energetic portion of the population of that locality—as indeed of most sections of New England—had followed the tides that set toward the cities, or swept westward to new lands and greater opportunities. But now the ebb tide was bringing back to these same sections many a Mantell, and carrying with it new ideas and new ambitions to many a native's son who saw good opportunities and a happier, healthier life among the erstwhile abandoned farms than he could see in the overcrowded centers of population.

In making his mental notes for another year, Mantell also took cognizance of the fact that it would pay to get everything done ahead during the early spring months that could possibly be done then. For instance, in the midst of their busiest season outdoors, and when they had several thousand small tomato plants once transplanted indoors, they had to spend hours making small boxes that would hold one or two dozen, for the stores to handle.

With the fertilizer, too, several half days' work were broken into. Much to the excitement of the native tillers of the soil, Mantell, upon Raffles' emphatic advice and explanations, had decided to mix his own, instead of buying a ready mixed brand. In order to do so he had had to buy his chemicals by mail from a firm in New York, and pay not only freight on the shipment, but cash for the stuff as well; whereas any one of the several smooth-talking agents would have been glad to take his order for mixed goods, delivered "freight allowed," and to be paid for in the fall, after the crops were harvested. Figures showed, however, that by mixing his own he could save over eleven dollars a ton on the high-priced brand which the Squire had found to give best results on their soil; and a telephone conversation with the State Experiment Station (costing a quarter, which not one of the thrifty natives would have dreamed of wasting in that way) convinced him that he could get exactly as good results from his home mixed product. The treasury was so low that he accepted the Squire's offer of seventy-five dollars at six per cent., for which he gave his note. For the same amount of actual plant food—nitrogen, available phosphoric acid and potash—that he got in his nitrate of soda, tankage, acid phosphate and muriate of potash for seventy-five dollars, including the freight, he would have paid one hundred dollars in high grade mixed fertilizers at forty dollars a ton.

The Squire had ordered his fertilizer the previous fall, but tried half a ton of the "new-fangled business—just to see what it would do." But he didn't have much faith in it, and the other neighbors had none at all. Said one, "I don't know about the other things, but this here nitrate of sodee, I know that'll make your ground poor in no time. Jim Crows, he used it on his meaders two years runnin'



When It's a Case of Keeping the Food Right

then you *must* have a McCray.

Built to give active cold air circulation inside, acting on Nature's rule that heat ascends and cold descends. This with the heat excluding construction of the McCray walls, gives a low temperature and a dry, cold circulating atmosphere that keeps foods at their best.

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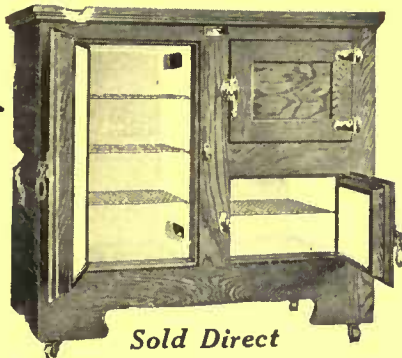
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and got big crops, but after that it didn't do nothin' at all."

"Well," interposed Raffles, "why should it? What would Crows think of a man who fed his cows nothing but cottonseed meal for two years?" But his friend could not see the connection.

They worked early and late, and worked hard, but the days seemed to slip away from under their feet, always leaving more to do than they could quite attend to. And yet every member of the household enjoyed the life tremendously. Robert and Helen had gained over ten pounds each, and ate like starved savages. Unlike most of the farmers' sons and daughters, they were intensely interested in the work at home, and looked forward every day at school to closing time, when they could rush home and help with the work in the lengthening afternoons. Their energy bubbled over for as many hours a day as they could stay awake, and then they slept like logs.

Not all the life was work, however. There were many socials and parties of various sorts, at which they enjoyed themselves much more thoroughly than they had at the social functions held in the city—which is, after all, no place for young, healthy growing animals of any sort. In the winter there had been straw rides, usually with the Squire's big gray team and largest sled, and with that well-wrapped and red-cheeked gentleman himself upon the driver's seat, enjoying the affair to the utmost. It really seemed as if he got more fun out of it than all the crowd of youngsters, and it would keep him in the very best of humor—though he never departed very far from that happy state—for days at a time. The Squire was a great favorite, beloved far and near by old and young; and in their esteem he found his life's wages, and treasured it, happier than any miser or millionaire.

Nor had the master and mistress of the household ever been happier. That happiness which has not as a foundation abounding health is apt to be a house built on the sands. They were both stronger, younger in feeling than they had been in years. And although the privations were many, and they had fewer modern comforts than at any time since their marriage, never had life been sweeter to them, never had the future seemed to hold so much in store; never for a day did they regret having made their break from the old life that lay behind them.



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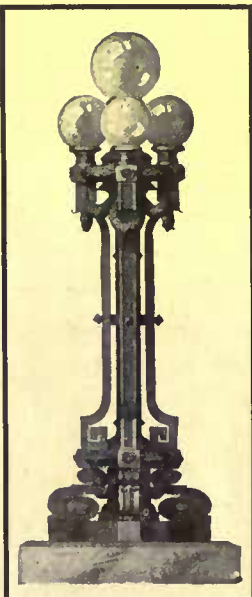
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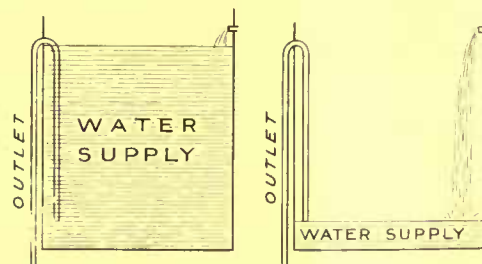


Grow Boddington's Quality Giant Pansies this year. They are sturdy free bloomers in a riot of unusual color combinations.

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or quantity. The essentials are a barrel or something similar at a height sufficient to give the desired pressure; a small supply pipe entering near the top, and a discharge pipe of larger volume running from near the bottom in a syphon curve, the top of which is a fraction below the level of the intake pipe. The barrel or tank may be in the attic or on an elevation in the rear of the house, and the supply may be from the usual source and constant though small, not more than a half inch stream. The discharge pipe leading to the geyser must be able to discharge at least twice as much water in a given time as the supply furnishes. The discharge pipe running as it does from near the bottom up in a loop to a higher point, then descending, it is evident that it will empty the barrel when once filled. Acting on this principle, when the supply pipe which runs a small stream has filled the barrel to a point as high as the upper bend in the discharge pipe, the water begins to flow out, and will continue to do so till the water is out of the barrel down to the end of the pipe. Then air will enter and the syphon will not act again until the water has again reached the level of the highest point in the outlet.



The geyser apparatus consists of supply and discharge pipes and a reservoir

Since the outlet is larger than the supply, water will run out faster than it runs in, and the desired frequency of spouts may be obtained by increasing or decreasing the supply. The duration of the discharge is regulated by the size of the barrel, or rather by the depth of water. H. F. G.



A Mushroom Experiment

MR. REED and his family are great mushroom lovers; but finding them very expensive buying, concluded to try the experiment of cultivating a bed in the cellar this winter.

Others had done it successfully, why not he? So he studied up methods, inquired of others, and went about it.

He lives in a house with a large, airy cellar underneath it, with a furnace that he can regulate to give quite a uniform atmosphere, which is one of the requirements of mushroom propagation. He has a bed in a remote corner of the cellar about six by nine feet enclosed by boards twelve inches wide. This is built with only one end against the wall, for he needs to reach into the center from both sides to prop-



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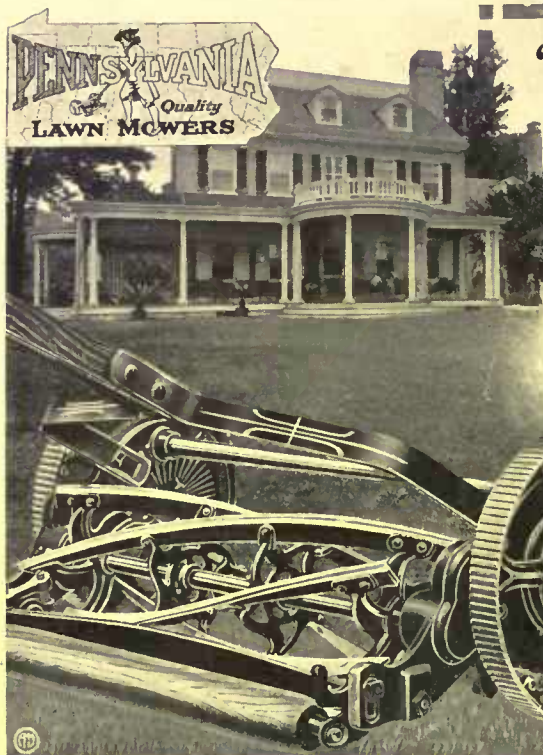
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erly arrange the bed, plant the spawn and gather the growing mushrooms.

He first put in a deep layer of fresh barn manure and then a layer about half as deep of well-rotted manure on top.

He planted the spawn, which comes by the pound, in bricks or flakes, in little broken bits all through this manure bed when its temperature was reduced to about ninety degrees Fahrenheit. He then covered the surface with straw to keep the surface moist.

After about ten days he removed the straw and covered the bed with two inches of good loam and again covered the bed with the straw mulch.

He is now, at this writing, waiting and watching for the young plants to appear, when he will remove the straw.

Like sweet peas, mushrooms must be gathered daily to thrive well, and be at their best, so he confidently anticipates not only a sufficiency for themselves, but also enough for his neighbors, for he thinks he can maintain the right conditions for successful culture.

M. A. N.



New Vegetable Varieties that Have Made Good

(Continued from page 15)

field corn. Earliest Catawba is an early strain of the old popular Black Mexican, but all my customers seemed to prefer Golden Bantam. Howling Mob is a good new early white, but the old sorts still hold their own. Burbank's Rainbow corn, with variegated leaves, is interesting as a curiosity and for ornamental purposes.

For the earliest corn, plant Golden Bantam or a similar sort a week or so earlier than you have been putting in the old sorts. If the soil is fairly dry, and you want to take a chance on frost, soak for twelve hours before planting, as this will insure immediate germination, and seeds usually rot before sprouting, if at all. For still earlier results, the seed must be started under glass on sods turned upside down—about four weeks before it will be safe to set it out. Give it a warm place. Set two or three inches under the soil when transferring the sod to the open. Late plantings out-of-doors, from the last of June on, should be deep; five inches is not too much to enable the corn better to withstand summer droughts. Frequent shallow cultivation is the greatest secret of success.

Cabbage.—Some of the newer varieties of corn are especially valuable to the home gardener because they can be planted closer than the old sorts, and the quality also has been improved. Glory of Enshuizen, a round-headed sort ready practically as early as Wakefield, has become a general favorite. Copenhagen Market, but recently introduced, should become the favorite family garden earliest. Mainstay Early, new this year, is emphasized for its ability to resist "bolting" or splitting after ripening, a quality which, if true, will make

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PARKER, THOMAS
& RICE, Architects.

it very valuable for the small garden where such sorts as Jersey Wakefield usually begin splitting before half of them are used, and the chickens get the greater part of them. Danish Round Head is a splendid late and winter sort. In quality, however, the Savoy's are away ahead of all other cabbages. Perfection Drumhead is easily grown and will send cabbages up several degrees in your estimation.

The cabbages are gross feeders and will stand almost any amount of fertilizer. For the best results, put about a handful of cottonseed meal and fine bone dust in each hill when setting out. This will give the young plants a surprisingly quick and healthy start. Hoe frequently to keep them growing fast, and protect from the green cabbage worm.

Carrot.—Chantenay is not a new carrot, but is still unfamiliar to many who grow for main crop one of the old long varieties, while they might get as big a yield, and much better quality, with this splendid sort. At all stages of growth it is very fine grained and free from stringiness. It is quite sure to become the garden favorite where tried, and all roots left in the fall are easily harvested and keep well.

For an early sort the new Coreless is very good. It is a "half-long" variety holding its size well down to the point, with small foliage. Sutton's Red Intermediate will take well for good deep soils, and is reported as becoming very popular in England on account of its good color and fine quality. There is a new French carrot, Luc, very highly recommended, which in shape seems to be nearer the ideal than any yet developed, but I have not tried it.

For earliest carrots, watch your chance to get a few square feet of spare soil in a frame, and sow them in rows ten or twelve inches apart (with radishes between, as these will be out of the way by the time the carrots need the room). Sow out-of-doors early—just a row or two the first time, so that if they are lost you will be out little. Keep ahead of the weeds carefully until the carrots get a start, as the seedlings are very small.

Cauliflower.—This delicious vegetable should have a place in every home garden. There seems to be a sort of superstition that it can't be grown unless one has a professional gardener on hand. For early cauliflowers nothing has yet been found better than some good strain of Early Snowball. For later, the Danish or Dry-weather has proved the best with me. It matured good heads last summer, without irrigation, and that was a pretty severe test.

To get good cauliflower good seed is the first essential, and rich soil the second, as a cauliflower is even more greedy than a cabbage is. Enrich the soil as for cabbage (see above) if possible, give thorough irrigation when heads are forming if the weather is dry. To get quality, tie up the heads as in the illustration as soon as they form. They will not bleach out after once being sunburned. Cut while



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THESE exquisitely beautiful, hardy Flowers have been a leading specialty in our Nursery for twenty years, and we have made annual additions to our collections by selections from thousands of seedlings, and by yearly importations from Japan. Our stock is now the largest and most complete outside of Japan.

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They are not expensive. The newest and rarest cost \$1.00 each. The best varieties are priced at \$2.50 per dozen—\$15.00 per hundred, and mixtures (these do not include the best) at \$1.20 per dozen—\$5.00 per hundred.

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Our catalogue tells all about these Irises, and hundreds of other hardy plants, Peonies, Phloxes, Lilies, Roses, Trees and Shrubs, and is sent free upon request.

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the head is still solid, as the quality is almost entirely lost if they are allowed to "sprangle" preparatory to sending up the flower stalks.

Celery.—Golden Self Blanching still marches in the front rank, along with the stuffed turkey and the cranberry sauce, on November's last Thursday. Winter Queen, however, is a most excellent newer variety, and becomes more popular every year. The essential quality to get in celery is that crisp, rich nutty flavor that makes its deliciousness unique, and which this Winter Queen has to an unsurpassed degree. Silver Self Blanching is a new sort claimed to be an improvement over the Golden. I have not yet tried it, but the argument made for it is logical.

Celery, for best results, must have moisture, especially if grown by the "new method." Care in blanching, too, is necessary to develop its latent quality. It well repays the effort required, however, as good home-grown celery is usually immeasurably better than what you are likely to get in the markets.

Cucumbers.—The one cucumber of recent introduction that has made a country-wide hit is the Davis Perfect. It was developed as a forcing strain, but does equally well out-of-doors, the fruits when well grown often being taken for greenhouse cucumbers. Another merit is that its dark-green color is retained when fully developed—though for the best quality any cucumber should be picked as soon as full size has been reached, as after that the tissues begin to toughen. Vickery's Forcing has become very popular for greenhouse use or starting in frames, and gives good results out-of-doors. The new Twentieth Century is the result of a cross between the Vickery's and one of the long English sorts, taking the desirable quality of greater length from the latter parent. I have not yet seen how it acts out-of-doors, but it certainly is a handsome cucumber, and will, I think, prove a valuable acquisition.

To beat your cucumber record by several weeks, make room in the center of a hotbed or coldframe sash of tomatoes or other hot plants, for a hill well made by digging in rotted manure and ashes or bone flour. As soon as you can move other plants to a cooler place, give the growing cucumbers plenty of heat—up to eighty degrees in the day will not be too much—leaving not more than two vines. For earliest garden results, start in inverted sod, that can be lifted plant and all, and transferred outdoors after danger of frost is passed. The pieces should be four or five inches square and as thick as convenient, and the seed covered with loose sandy soil. Pack the sods close together, so that the surface after being covered will be without cracks to cause washing.

Where only a few plants are grown care should be taken to keep the matured fruits picked off clean; even if they can't all be

(Continued on page 86)

What a Galaxy of Fragrant Charmers!

From "The Best Roses for America"

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One of my customers describes Farr's Iris "Wyomissing" as "blooming in every fairy color"—a happy phrase and an ideal description. Wyomissing Nurseries are a veritable fairyland—an enchanted spot wherein I constantly find new joys and where life, to me and to my dear ones, daily takes on new brightness and glory as new flower-wonders unfold.

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"Farr's Hardy Plants"—A Book That Will Delight Your Heart

and convert you to a more passionate love for the growing things. This book will help you make "fairyland" of your own garden. I shall be glad to send you a copy.

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In Your Garden

Secretary of Agriculture Wilson recently made a statement to the effect that practically all the advanced prices which make up the increased cost of living go to the many handlers between the producer and the consumer.

In the present acute agitation of the high cost of living, there has not been a sufficient realization of the fact that every man holds a partial solution of this great question in his own hands. During the summer, half of your living expense is for things that should come out of your own garden. Improved methods and higher quality of seeds have made it possible to cultivate the small tract, so that a plot 25 x 50 ft. with a reasonable amount of cultivation and planted with seeds of a tested quality such as Henderson's should supply all the vegetables required by a family of six or seven. To get the best results, it is necessary to have the best seeds. The sixty-four years of successful seed growing and selling that is behind every packet of Henderson's seeds should and does make them the best that it is possible to buy. Henderson's are tested seeds.



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Send for full set of over 200 illustrations



WILLIAM LEAVENS & CO., Mfrs., 32 Canal Street. Boston, Mass.

(Continued from page 84)

used. Remember, however, that a ripe cucumber is not a waste product. Sliced and fried in a rich batter—as eggplant is often prepared—they are surprisingly good. Don't forget to try some this season.

Eggplant.—No rival has yet appeared to contest first place with Early Black Beauty. Not only is it earlier and with a better habit of growth than the older sorts, but the fruits, which are freely set, grow large enough for any purpose. The best quality, however, is to be had by taking them before the seeds are fully developed.

For best and quickest results, the little plants, started with tomatoes, should be put in pots after the second transplanting, and have a good ball of roots developed by setting-out time. Eggplants are very greedy feeders, and will assimilate all the food that can be given them. Liquid manure, while the fruits are forming, is excellent.

Leek.—Prize-taker is a new leek that is being used extensively for exhibition purposes in England, where this vegetable is much more popular than it is here.

Lettuce.—The varieties of this ever-popular salad plant still continue to increase. I shall mention but one of each of the four types: Loose-head, Early Heading, Summer Heading, and Cos. Grand Rapids is without any doubt the grandest loose-head sort so far. Wayahead, I believe, is now entitled to first place among the newer early sorts. Brittle Ice is a fine big long-standing summer sort. Trianon Cos is an exceptionally fine strain of this type, and the Cos lettuces have a quality all their own. Although they are not new, I want to mention in passing that sweet, tender little bronze-tinged lettuce Mignonette, and the thick dark-green hard-headed New York. They should be tried along with the others. The six varieties mentioned above, all quite distinct, make a collection that should give the most fastidious gardener satisfaction.

Quality in lettuce is secured by rapid growth, which depends largely upon frequent cultivation. Midsummer plantings should be shaded, if possible, until sprouted. Also be careful to thin out adequately while the plants are still in the seedling stage—say to two or three inches apart, and when these touch take out every other one, as they will then be large enough to use. The Cos lettuces must be tied up, to bleach the hearts.

Muskmelons.—There are so many delicious muskmelons, both old and new, that I hesitate to make selections. There is one to be introduced this year, however, which if the description of the introducers is not stretched, is something entirely new, and that is Henderson's Bush muskmelon—not that it is supposed to grow on a small tree, but the vines are represented as having much the habit of the bush squashes. I shall await the outcome of my own trial of this new melon with much interest, for

(Continued on page 88)

A vintage black and white illustration of a woman with curly hair, wearing a high-collared dress, holding a large, box-like mechanical sweeper. The sweeper has the words "BISSELL'S" and "SWEEPER" printed on its side. A hand is shown operating a lever on top of the machine. The background is simple, with horizontal lines suggesting a floor or wall.

In Carpet Sweepers it's

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Bissell Carpet Sweeper Co., Grand Rapids, Mich.
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START in the
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The plants are ready
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In separate colors, your choice, white,		
blue, rose, dark rose, scarlet,		
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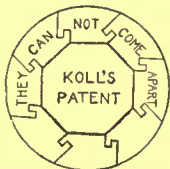
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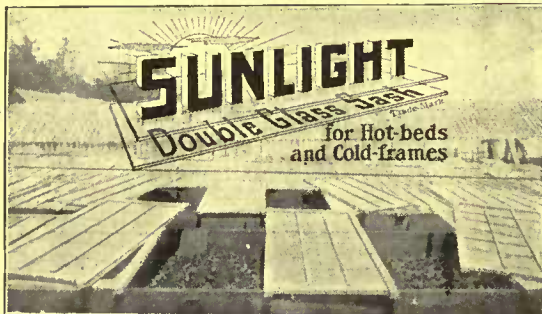


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Fifth Avenue, Thirty-fourth and Thirty-fifth Streets, New York.

(Continued from page 86)

a good bush type would mean melons in every home garden. Fordhook, a new salmon-fleshed sort, has attained great popularity, and is one of the finest quality melons I have ever raised, and a very strong grower. It usually sets several melons so close to the hill that they touch each other. The Spicy Cantaloupe is described as having "the nearest approach in appearance and flavor to the greenhouse-grown foreign melons." I think this is a fair description. I prefer the taste to that of any other melon I have eaten, but it did not withstand the drought so well as Fordhook. Hoodoo, Davis White Seeded and Melting Sugar are others which have won wide favoritism.

Watermelon.—In many small gardens there is no room for these far-spreading heat-lovers. Halbert Honey and Yellow Ice Cream are two excellent sorts for use north of New Jersey. Give the lightest, warmest soil available, and start early, protecting carefully from bugs until well vined.

Onions.—Prizetaker is now almost as well known as any of the old varieties, and for the home garden I consider it unequaled. With me for main crop, two or more acres, it has replaced all others. Ailsa Craig is a new English sort which attains a huge size when started under glass and transplanted. Its quality is unsurpassed.

To get the largest specimens of any variety, seeds should be sown during February in a low temperature. The little seedlings stand transplanting readily, and are easily grown, the tops being cut back two or three times to keep them stocky.

Peas.—Gradus is still by all means the most popular early wrinkled pea, making up in size and quality for its somewhat shy bearing. Early Morn, I think, is an improvement in being more prolific. Blue Bantam, being sent out this year, will probably be another claimant for honors in this class. Boston Unrivalled—an improved Telephone—is another excellent and free-growing main crop. Carter's Quiet Content, recently brought from England, produces the most enormous pods I have ever seen, and the quality is superb. Royal Salute is another fine sort. Giant Sugar Sword is a good new "edible-podded" pea. As with beans, plant shallow for first plantings. Get your supports in before the vines begin to run.

Pepper.—Neapolitan is a new extra early of value; Chinese Giant is a new sort of truly gigantic size, and sweet as an apple. For home use it is the best yet.

Radish.—Rapid-Red and Crimson Giant (or Globe) are two new round red sorts. Of the numerous other types there is not room for a description here.

Spinach.—Victoria, a savoy-leaved or crinkled type, is the best for the home garden, and has the merit of standing long before bolting to seed. For my own use, Swiss chard has almost entirely supplanted the spinaches, as it can be cut

(Continued on page 90)

Trinidad Lake asphalt

Asphalt-saturated wool felt

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Trinidad Lake asphalt is what makes roofing last.

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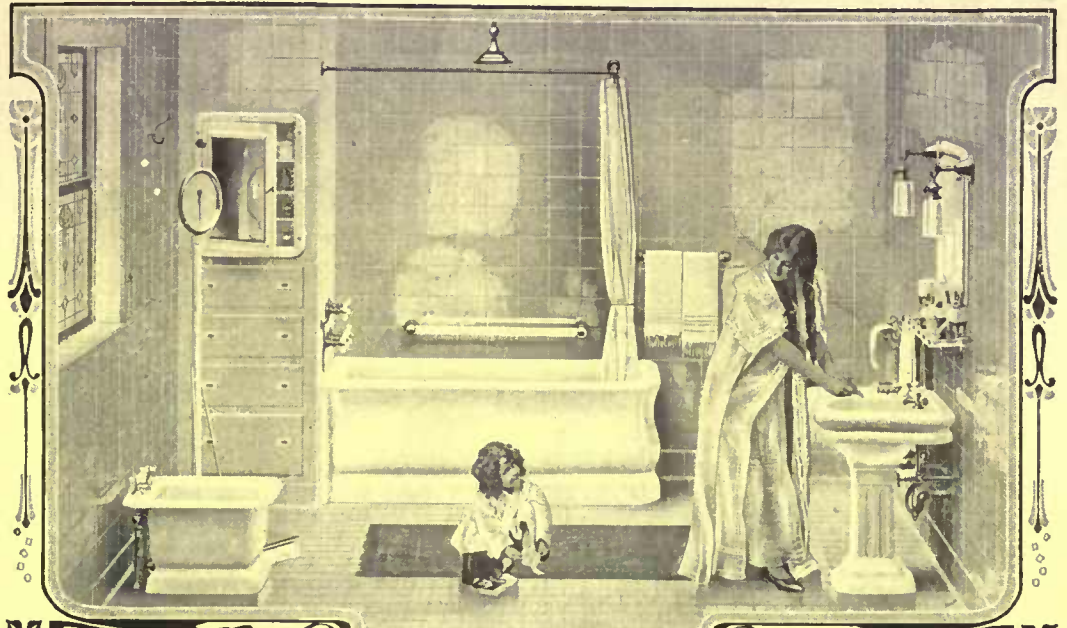
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If your Fruit Trees last summer looked as though there was something the matter with them;
If the crop was small, ill-shaped, not juicy, shriveled up, and fell off;
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The only way to Save the Trees, have Large Crops, Perfect Fruit, and Luxuriant Foliage is to spray with pure, effective, safe Insecticides and Fungicides.

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The Livingston Seed Co.
716 N. High St., Columbus, O.

(Continued from page 88)

again and again all summer long. Lucullus is the best variety. One short row will keep a family supplied with "greens" all summer long.

Squash.—The Delicious is the best new squash of recent years. Not so large as the Hubbard but of even finer flavor—the best in quality of all. Symmes Blue Hubbard is, I think, a real improvement over that standard variety. For the small home garden, where space is limited, the little Delicata or the Bush Fordhook is best. Start as early as safe and keep the bugs off. If the vines are caused to wilt by borers, look for them near the ground in the stem, and splitting a section carefully lengthwise with a sharp thin blade, get the intruder out.

Tomato.—Dwarf Giant has proved a great acquisition. A cross between Ponderosa and Dwarf Champion, it has an ideal habit of growth, an ideal fruit, and is beyond doubt the best tomato for the home garden so far developed. Dwarf Stone is another good sort. Livingston's Coreless and New Globe are both fine sorts, from the garden of this veteran tomato hybridizer.

The last two seasons' droughts have proved to me more than ever the benefit of having plants like tomato, pepper and egg, started in pots. One of my customers last year, who had about 300 potted plants and the rest from boxes, told me in September that while many had been practically burned up, all the potted plants had lived. Also, they get so large in the pots that the cut-worms can't get them after planting out. Keep the plants well trained up, and most of the suckers should be rubbed off before they get large.



The Spanish Mission Style of House

(Continued from page 13)

side face of the walls is covered with cement or stucco, forming window and door jambs, and, with the roofs of tile, the use of wood is reduced to a minimum. It is not necessary that the walls be built of concrete for this style of building, as brick or stone will answer the purpose in place of the concrete. Tiled roofs are generally used. Where the floors are exposed to the rain and moisture, as in porches and cloisters, flat tiles are used. This flooring is good, and economical, as it requires practically no attention.

More and more the desire is growing for baths and plunges. The "Roman bath" seems to be returning to popular use. Where land can be used freely the bath can be connected with the main house very conveniently in this type of building, surrounding it with rooms or with a blank wall as desired.

(Continued on page 92)

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"THE UNIVERSAL PERFUME"

Has a marked individuality quite its own and should not be classed with cheaper perfumes which usurp the name but can nowise approach it in quality or permanence. These facts stand after a century's test. For the bath, after shaving, and for general toilet purposes it is the one thing to use, if you are seeking the genuine and the best.



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Send for our book, "Fertile Facts"

Tells how to fertilize the soil so that productive crops may be raised. Special matter for lawn and market gardeners, Florists, Nurserymen and Farmers. Sent FREE if you mention this Almanac.

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lies not only in the colorful arrangement of its flowers and the freshness of its tender vegetables, but in the ease and pleasure with which they may be grown.

No matter how much of a novice you may be, you will find it pleasurable and an easy task to grow either flowers or vegetables, guided by the explicit instructions in

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The finest of all with immense wavy flowers in sprays of 3 and 4 blossoms each. Just as easy to grow as the common sorts. Our mixture contains a full range of colors. 10 cents per package—15 cents per ounce, 40 cents per ¼ pound. GARDEN BOOK FREE WITH EACH ORDER.

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but he does hate the drudgery of it. Don't keep on with that idea of garden work, but find out, at once, all you can about the tools shown in the engravings.

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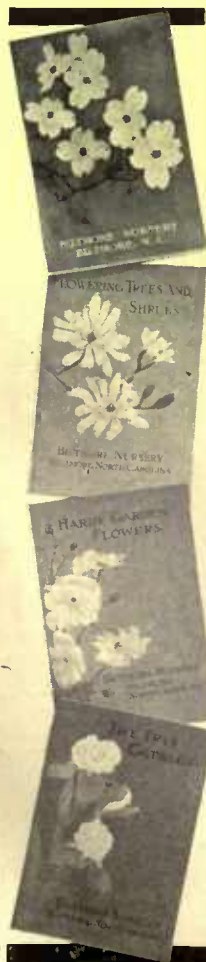
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IT PAYS TO LOOK US UP.

(Continued from page 90)

In similar manner can be constructed the stable or garage.

The old mission and Mexican buildings were almost hidden by trees, and for those who appreciate landscape gardening this type of building affords a splendid opportunity for artistic effect.

This Mission style of architecture is not applicable to congested city uses, where land is so valuable and height of building is the ambition, but when applied to country or suburban uses, what is more appropriate? What can be more refreshing than after the labors of the day to leave the city with its confusion and jumbled collection of all kinds and styles of architecture, as seen in the average business streets of all our cities, to come to the country home with its quiet and rest?

The modern houses of red brick, the fanciful reproduction and imitations of castles and chateaux, often perched in the most inappropriate positions, become irksome. Instead of this we come to the quiet and restful Mission with its setting of trees, flowers, vines and gardens.



Spring Plant Overhauling

EVERY year about February or March I give my house plants an overhauling. After the long winter in the house they need a freshening up, both as to soil and a general pruning, and while at that particular time they may evidence no particular signs of debility it is just this treatment at this particular time that will carry them through the summer and have them looking well when again taken into the house in the fall. The best of house plants, palms, ferns and rubbers cannot be kept looking in the best conditions without this spring toning up. It is the secret of keeping these plants in condition, as I have proved to my satisfaction.

In February or March, as I have said, I do the work. First I examine the roots of every palm and fern that I have, by removing it carefully from the pot. If it is wormy-looking and lifeless and pot-bound I put it into a larger pot, a pot only one size larger. A pot too large will defeat the object of the potting. I disturb as little of the ball as possible and careful put it in the new pot. Then I fill up the spaces with the best loam I can get at a greenhouse, and I ram it into the pot very hard, using a stick to do it. This hard ramming is very necessary. When on examination I find a plant that shows poor roots I put it into a pot one size *smaller* than the one it was in, removing as little loam as possible to accomplish this. This is what the greenhouse man would call "potting back," something the average amateur knows nothing about, as they sin most grievously on the "over-potting" side, which is a great mistake.

(Continued on page 94)

Vaughan's Gladiolus Bulbs

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Book is 8½ x 10½ inches, 64 pages; its cost is 25c.

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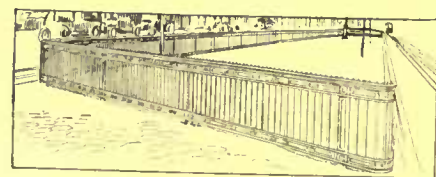
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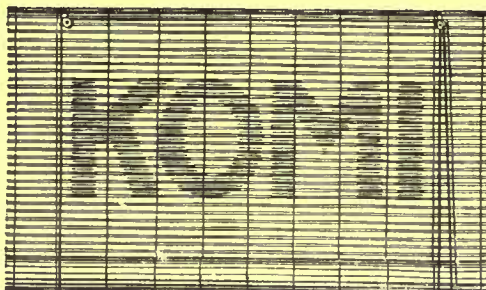
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BY HANNA RION



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If in springtime it is a satisfaction to put on your old clothes, get out a spade, and turn over damp clods of reawakening soil, you will find this book necessary to the proper enjoyment of life and, incidentally, the correct cultivation of your garden. It stands alone in being a wonderfully devised combination of the most vigorous inspiration with a wealth of sound gardening information that one assimilates unconsciously while being delightfully entertained. It is a book full of a rare charm, especially in that it is so human.

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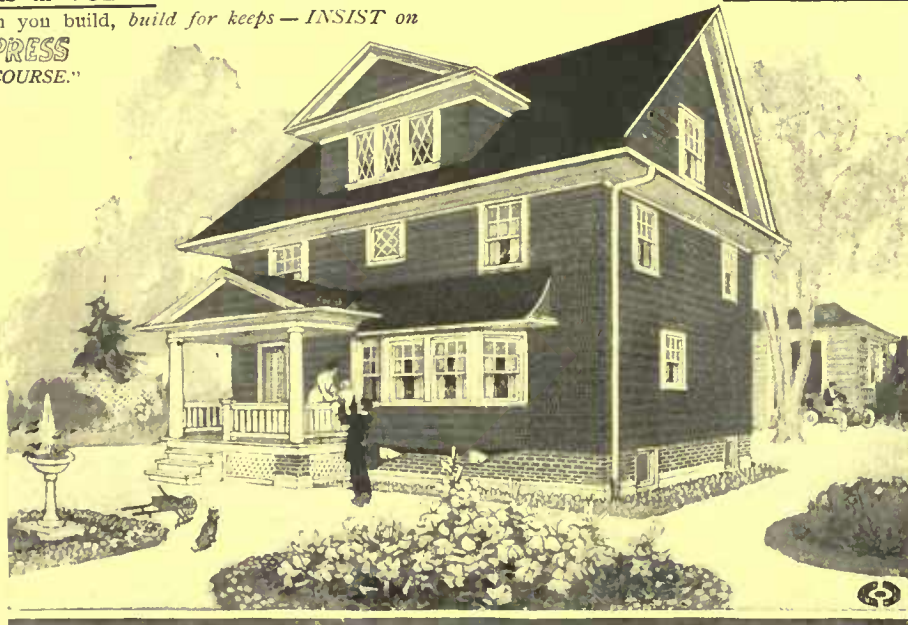
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(Continued from page 92)

To the other plants I give a top dressing of loam mixed with bone meal. I do this by digging away the top earth down as far as the roots and putting the new loam in its place. In doing this work I am careful not to injure the roots of the plant. The treatments described, while seemingly simple, are of absolute necessity to plants that have been kept in the house for a long time, and are the secret of success.

This spring work goes still further. I go over every plant, covering leaves, stems and deep into the crown of the plant with a stiff brush saturated with a strong suds of whale-oil soap. Whale-oil soap is the best that can be used, but as the odor is offensive, other soap may be substituted, but for the best results the whale-oil should be used. After using this soap the plants should be syringed with clean water, as the soap is apt to be caustic if allowed to remain too long. One application of this soap will keep the plants free from pests for a long period. Next, scrub the outside of every pot with sand and soap. I use a common strong soap and coarse mason's sand and as stiff a brush as I can find. After the scrubbing I wash the pots in clean water. This washing not only makes the pots more pleasing to the eye, but the cleanliness has a direct and beneficial effect on the plants themselves. Filthy pots and impoverished soil and sooty stems and branches are the things that work havoc with plants that are kept in the house. Just to test this out to see how true it is, run your fingers along the branch of a palm and then look at them. Examine a palm, going deep into the crown where all the branches shoot from and see what you find. You will have begrimed fingers, and you will also find in the crown of the plant a soggy, uncleanly and perhaps an insect-infested condition.

These conditions are always the worst in the spring, and it is this suggested spring work that will overcome these conditions before they begin to make inroads on the health of the plant, as they most surely will if not looked after.

No matter how well your plants are looking just try the experiment of treating them as suggested above, and you will be pleased with later results.



Ripen Persimmons at Home

"NOT good until after frost" is the first thing everybody says to you when you mention persimmons. Through greediness I learned better.

Last season, to get ahead of the "little niggers," I brought home a basketful which *looked* ripe, but were decidedly *not*. Instead of throwing them away I determined to spread them out on a shelf in the pantry and see if they would not ripen.

Six weeks later they were simply delicious, not soft, but sugary. And they had never known either frost or chill.

The Morning Mash

A GREAT many of the poultry keepers advocate feeding mash to their fowls in the morning, but after considerable experimenting along this line I have come to the conclusion that the best time to feed the mash is at noon. If the hens are given all the mash they will eat, or even a half feed of it, in the morning, they will seek the warmest corner of the poultry house and sit idle for the greater part of the morning. A hen that is not made to work for the greater part of her living will never be a prolific layer.

Then, too, I am not in favor of feeding the mash at night. I think the principal objection to feeding the mash at this time of the day is that it digests too quickly, thus not furnishing as much warmth to the fowls as the whole grain. Another objection is that beginners are apt to think that a hen may be fed all the mash she can eat in the evening with safety. This is wrong, as the hens do not exercise in eating soft feed, and, therefore, on going to roost with a full crop they have gotten the greatest part of their daily ration without working for it.

In my experience I have found the best time to feed the mash is at noon. If the mash is fed at this time of the day a very little should be given; also the morning feed should be rather light, with a full feed of whole grain at night. The following manner of feeding has proven very satisfactory with me for winter: After the hens have gone to roost I scatter grain in their litter and rake it in with an iron rake. I use wheat, oats, buckwheat, etc., for this ration, and give a good big handful for every three hens. At noon I give them a mash of equal parts of ground grain with cooked vegetables occasionally added. This should be mixed to a crumbly mass. At night I give whole and cracked corn, all they will eat up clean.

A. E. VANDERVORT.



The Flavor of Eggs

THE flavor of an egg is not a matter of chance. It is effected by age, food, the conditions under which the eggs are stored and the care given to the hen.

Much depends upon the rations fed to the hens. The feed affects not only the flavor but the odor. An experiment with cheese at one of the agricultural colleges demonstrated that fact. The color may be changed, too, for the absence of green food results in a pale, uninviting yolk. Alfalfa or clover gives the rich color most desired, and improves the flavor. Strong vegetables like onions tend to impair the flavor if fed freely, and musty grains have the same effect.

Eggs should be gathered two or three times a day, when possible. Exposure to heat damages them in summer and they may freeze when the weather is cold.

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The Collie

(This is the second of a series of articles pointing out the chief characteristics of the different breeds of dogs which are suitable for the country place. The first appeared in the February number, and had the Airedale for its subject.)

Of all the dogs that find their most congenial surroundings on the farm or about the country home, few indeed can surpass the rough-coated Scotch collie in beauty, grace and striking appearance. As he stands at attention, with head raised, ears up and eyes shining, he is a perfect picture of refined, intelligent alertness, and when, his curiosity or interest satisfied, he trots away with smooth, springy gait, his is truly "the poetry of motion."

To derive the greatest pleasure and satisfaction from the possession of a collie, it is absolutely essential that he be trained to implicit obedience, whether it is intended to use him as a sheep dog or not. This of course is true of every breed of dog, but with the collie particularly failure to heed the advice is followed in most cases by trouble and inconvenience not only to the owner but also to other people. Remember that you are dealing with a dog which for generations has had his brain stimulated by the most exacting and exciting kind of work, in which the natural inclination to hunt other creatures has been curbed and directed to man's uses. Let such a dog grow up without training and discipline, and what is the result? His naturally active mind and body, lacking proper guidance and control, seek some outlet for their abundant energies; he "runs wild" and acquires more or less lawless habits, which make him anything but a desirable member of the canine community. Collies should always be perfectly amenable to human control, and any tendency to bark or snap at horses or people must be promptly and effectually discouraged.

It is an excellent plan to give your collie a definite object in life. If there are sheep or cattle on the place, teach him to herd them in the pastures and on the way to and from the fold or stable. Lacking this occupation, guide and cultivate his natural tendencies as a guardian, and make of him a valuable watch-dog, or in some other way give him to understand that he is not to be merely a privileged character whose time can be spent in any way he sees fit.

The general appearance of the breed is too well known to need description here, but there are a few points that often escape the notice of the intending purchaser and which are important as indicating the good breeding or lack of it of the individual dog. The ears should be small but not pricked; that is, they must never stand absolutely stiff and erect, but their tips should bend forward and downward when the dog is on the alert. When at rest, the ears are folded lengthwise and thrown back into the frill of long, thick hair about the neck.

THERE is probably no existing business to-day that offers those engaged in it so much return, aside from the financial end, as the publishing business. An organization which has for its purpose the issuing of magazines and books may or may not have "personality," but it is more apt to be a sentient thing than a wholesale cheese dealer's house. We want our readers to feel that we have a personal interest in every one of them. We know that some of our readers have a personal interest in us, for we have often strong proof of this in the letters we receive from them. We suppose that many more people have had an impulse to speak a word of appreciation and have thought better of it on account of believing that it would not be looked upon except in a manner of a soulless corporation.

The following is an extract from a letter that was read personally by the editor of TRAVEL, the editor of HOUSE & GARDEN, the President of the company and several others connected with the magazine. It made us all feel good.

LOS ANGELES, CALIF., JAN. 31, 1912.

Gentlemen:—

I am in receipt of the January number of "Travel" and to say I am delighted, as I turn over the leaves of the beautifully printed pages of enameled paper and artistic and clear illustrations, hardly expresses the impression it made on me. "Travel" is worthy the place of honor on any gentleman's library table. I propose to have my numbers bound, and give them that place.

In looking over the many entertaining descriptions of the different places, I was particularly impressed with the piece entitled "Picture Towns of Europe." In following the terse description of the writer, I wandered through the quaint streets of Cintra, and the clear forceful style in describing the everyday life of the people who live amid the grandeur of the fifteenth century made me feel that through the courtesy of "Travel" I had visited Cintra, the show place of Portugal.

Very truly yours,

Everybody reads the advertisements in a magazine nowadays, so of course you have seen announcements of the new books we are publishing. There is nothing extraordinary in the fact of our adding a few new volumes to the list but—here is the point—that was only the beginning of our Spring list. We are growing fast over here in Union Square, but more of that later.

THREE NEW NOVELS

Ever since Noah told his grandchildren of how the flood came and wiped all the evil-doers off the face of the earth, it has been a weakness of the human race to want stories told them. There have been thousands, millions—well, ever so many—tales narrated since then, but the demand for first-rate yarns has ever exceeded the supply.

We shall do our part toward satisfying this innate craving for good fiction.

Curiously enough, one of the novels we shall publish this month is "The Second Deluge," a story of the earth's encounter with a watery nebula which envelops the planet



Leona Dalrymple, author of "Träumerei," carefully revises her manuscript before transcribing it on the typewriter.



and spells destruction to everyone who disregards the prediction of Cosmo Versal. Cosmo seems to be an up-to-date re-incarnation of Noah himself. His Ark is thoroughly modern—and the story is, too. The author is Garrett P. Serviss, whose scientific knowledge, in combination with the true story-teller's instinct, gives the yarn the greatest plausibility.

"The Second Deluge" will be a refreshing relief for readers who may have become wearied of the monotony of the ordinary novel. The idea is delightfully original; the style is dramatically forceful; the characters are unusual, and well-sustained; the incidents are ab-

sorbing in interest, so that the reader reads on to the end with unflagging attention; and through it all runs a delicate vein of irony, and an undercurrent of humor, which will be appreciated by discriminating readers. For boldness of imagination nothing equal has appeared since Jules Verne made science a playground for the fancy. But the writer has avoided the sometimes tiresome didacticism with which the great French romancer often overloaded his books.

Everybody knows and loves "Träumerei," Schuman's charming musical composition. The appearance of a novel by the same name will attract a great deal of attention. This new story by Leona Dalrymple will appear simultaneously with the "Second Deluge," but it is as different from Mr. Serviss's book as fire is from water. Most of the action takes place in a little Italian hill town near Naples and although the principal man of the story is an American, the heroine is a beautiful Italian girl of the higher class. There is true charm in the story and a love interest that in its delicate ardor has not been surpassed. The author, whose photograph is reproduced on this page, has been before the public in the pages of the best magazines, but this is her first novel. You will recall that the term "first novel" is often synonymous with great success. It has proved so in many instances, and we believe thousands of readers are going to like this story.

A new story by Mary Stewart Cutting is an event to which the reading public looks forward with keen relish. Here in the office we are anticipating the good time you are going to have with "The Lovers of Sanna," the story of a wonderfully charming young woman who is not quite sure of her heart impulses. Sanna is a girl we all hope to meet in the life. We're sure she exists other than in the pages of the book, and we believe we shall be fortunate enough, some day, to find her.

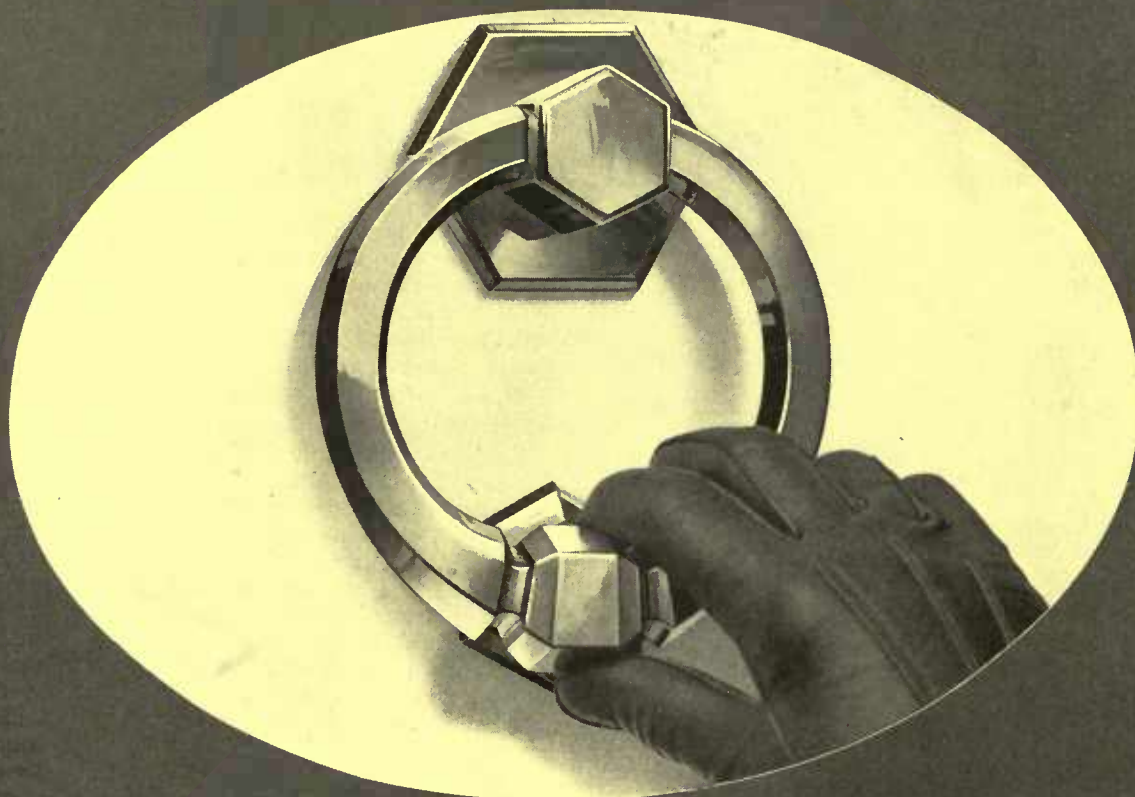
Hanna Rion, the author of "Let's Make a Flower Garden," is pictured here-with in a corner of her garden.



Hanna Rion seems part and parcel of the floral world, so full of inspiration is her "Let's Make a Flower Garden"

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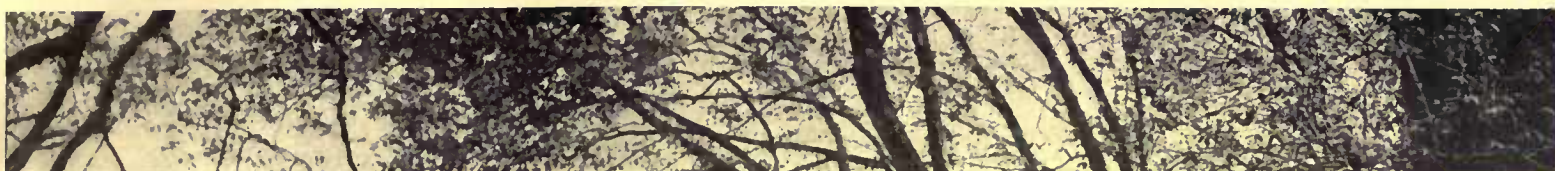
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Photograph by Jessie Tarbox Beals

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McBRIDE, NAST & CO.,

31 EAST 17th STREET
Union Square, North

NEW YORK CITY

Robert M. McBride, President; Conde Nast, Vice-President; Robert F. MacClelland, Secretary; Henry H. Saylor, Treasurer.

VOLUME XXI

Published Monthly. 25 cents per Copy. \$3.00 per Year. For Foreign Postage, add \$1.00; Canadian, 50c.

Entered as Second-class matter at the Postoffice, New York, N. Y.

NUMBER 3

HENRY H. SAYLOR, EDITOR.

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Why should we decry the loss of the old-fashioned garden? There must be a beginning to everything, and we may be able to make the garden that will be the cherished old garden of another generation. This is an example of a new old-fashioned garden of but two years' planting



House & Garden

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VOLUME XXI

April, 1912

NUMBER 4

A Garden of Yesterday

BY EDITH LIVINGSTON SMITH

Photographs by Ella M. Boulton and others

WHEN Now walks down the lane of Long Ago and sees there a little girl who is a woman to-day, there steals over the memory a sense of the unreality of the changes and chances of time which weigh events in the scale of importance. It is as easy for recollection to say "it is" as for actuality to say "it was;" one has but to turn the bend in the road of twisted years and there is the flower from which the faded fragrance steals, there is the music from which the silence trembles, there is the child-happiness of irresponsibility in which the idleness of old age finds its image—and its dream of peace.

When Now walks down the lane of Long Ago a woman's hands reach out eagerly to clutch the childish fingers which were hers, her heart encompasses the doubts and fears of a wistful, wondering, opening consciousness—a woman's understanding bridges the years.

If you go with me, you must shut the lower half of the double door of the big white house—Grandmother's house—for she calls "Shut the door, childie, and don't forget the garden gate," so we must do what she asks.

"Yes, Grandmother," you must answer, not just "Yes'm" as you may to the school-teacher.

It is only a step to the garden gate. The latch lifts easily. Whitewashed picket fences are nicer than painted ones, aren't they?

Why?

Because Grandmother's fence is whitewashed and the house too, shingle on shingle; she won't have it painted.

Now turn and wave your hand to Grandmother, for she is looking to see if you really shut the gate—that's so the chickens won't get in.

"Keep in the shade, child," she calls.

(Yes, there were shadows in Grandmother's garden; how strange!)

You must take a long breath because the minute you shut the gate and think where you are, you can smell it all at once—the



It is only a step to the garden gate swinging in the whitewashed, picket fence; and it leads you into a garden of delight

box that edges the paths, the phlox and the hollyhocks, the larkspur and four o'clocks, the bachelor buttons and ten weeks' stock; the sweet peas and candytuft, and mignonette and sweet geranium (it needs a very long breath); the lavender and heliotrope, and poppies and forget-me-nots; the pansies and nasturtiums and sunflowers, and all the other blossoms—wealth of green and color; mixed with the drowsy hum of insects—borne on the clear note of a bird, shut in by the overflowing sense of sunlight and tree-tops and the under-tenderness of Summer's growth.

You mustn't go down the middle path first, for that one comes last. No, don't go to your wrong hand side. When I was much littler than I am now I learned my right hand from my wrong one by the paths in the garden. On the wrong side are all the things to eat—peas and beans and corn and such things that are nice—for dinner, but not when one just comes on a visit to the garden.

Over here? Yes, there are some things to eat, but in with the flowers, currant bushes and pear trees that have to be propped

up with long sticks because they are going to have so many pears; and peach trees and plum trees—just a few—and the flowers that like to be shady grow underneath them.

Hear how the bumble bees bumble around the ever blooming roses and the lilies. Did you ever see lilies so much taller than little girls? They can look right over the fence. Great big red ones and white ones that smell most as sweet as roses, and the tiger ones with freckles like mine.

If you were a fairy, would you rather dance here or under the poppy umbrellas?

I beg your pardon, but if you want to see the place where they meet in the moonlight (there are other places too—out under the big trees by the front gate, where the roots of the trees grow, right out of the ground to make houses for paper dolls, is one, and down in the glen)—but if you want to see their most favorite place, it is down the middle garden path. Yes, let us go.

Here, you see the box stops edging the paths and the bushes



The path stops at the trellis and beyond are just trees and grass and flowers, growing in disarray, unhedged by borders

do it instead. Those are peony bushes and bleeding heart—the peonies are all gone now like most of the roses and the lilies-of-the-valley by the fence—and here is the trellis that makes a bridge over the path for the grapes to grow over. You can sit here on the benches under the trellis if you want to. I often do when the grapes are ripe.

“You never saw so many old-fashioned flowers?” Do you like new-fashioned best? What kind are they?—“You don’t”—Oh! I am glad, for Grandmother and Mother and I all like this kind and there is such a lot of them. Now, the big path stops this side of the trellis and it gets little with just trees and grass on each side of it. Your skirts are long. I am so sorry—it takes the dew such a long time to dry. Mine don’t touch the grass, you see.

Now *this* is where the fairies come. See the cobwebs on the grass? That’s what people call them, but they are really the table covers of the fairies when they have supper out here in the garden at night. The trees grow closer and closer here. When little girls are alone they always run down this bit of the path.

“Why?”

I don’t know exactly, but—I think I’ll take your hand, please—to show you the way.

No, go slow again. The sun sifters through the trees just like the flour does through the sifter when Grandmother makes sponge cake. See how long and soft the grass is here, and the path stops being a path and is just an open space—now it’s a path again and where it turns—guess?

“You cannot?”

A big tree and a seat made of twisted wood. Isn’t *that* the loveliest place to play house? Here is where Grandmother and Grandfather used to sit. Grandmother told me so.

Hark! Do you hear singing? It’s the brook right down at the bottom of this little hill. Grandmother said that the brook sang all their words to music as if it was a song when she and Grandfather were lovers.

Do you know what a lover is? It’s Grandfathers and Grandmothers and Fathers and Mothers before there is any you.

But lovers don’t fade like the roses, Grandmother says. They keep on gathering all the sweetness of love into all the years just like the bees do honey—Oh! I can’t explain. You ask Grandmother—little girls never can explain, but they *know*, because they feel it all inside.

“Some day, dear child, you will understand these things and life,” Grandmother says. “Oh, Grandmother, I know,” I say. “That is, I know the outside of it all. It is just like the breath of the garden, that is all of it; even if little girls don’t know the name of each flower, they can understand the sweetness is all of them. Isn’t that like life?”

“Yes, philosopher,” Grandmother says. “It is like a garden with the roses and the thorns, the sun and the shadows the springtime and the dead, dead leaves, the lilacs and the bitter-sweet; but a child knows not of thorns and shadows, and bitter-sweet climbs too high over your head.”

Grandmother likes riddles. Most generally I can’t guess them.

When we go back I’ll pick you some flowers and we’ll get some blackberries to eat. I know how to make a basket out of grape leaves and little sticks, and trumpet creeper trumps hold quite a number if you put the little berries in them. Here—*Here*—we are! Don’t you love it? *Don’t You?* You must say you do. Isn’t that the dearest, runaway brook? Doesn’t it sound



Beneath the tall hollyhocks with their various hues, are the hiding places of the fairies



The foxgloves waved their stately heads above the child, even the lilies leaned over her

cool when it splashes over the rocks? And you can learn all about geography—I mean islands and isthmuses and peninsulas—when you go in paddling.

What a pity! I forgot your skirts were so long. Would you get them wet? Perhaps you would.

Oh, thank you. Are you sure it is polite?—You really wouldn't mind if I went in paddling alone?—Yes, I always do—

Is it as late as that? We must go back. I wish we had brought some cookies. Perhaps we can find some early pears. You can never guess why, when I'm in Grandmother's dining-room I think of the garden most always.

Flowers on the table? Yes, but not that—sometimes it's currants, sometimes it's pears stewed in molasses—or early it's strawberries and now it's blackberries—and sometimes I have to come out and get three peach leaves to put in the milk that Grandmother is heating for the custard.

Then on Sundays I think of the garden. Sundays is when Grandfather, who is dead, has his blossoms. We come out here and pick the very best flowers we can find and we take them in the house where Grandmother fills the tin crosses half full of moss and water, and then we put the flowers in those until they look like rainbow crosses. Then we go to church—early. Partly because Harry Clay—that's the white horse—goes slowly (he's old like Grandmother), but the second "because" is that we have to go to the burying-ground first. That's where people get planted before they grow to Heaven.

We stop on the road and put the reins through a hole in the post—but Harry Clay would stand all right if we didn't—he likes standing best, you know.

Our little dead yard is near to the road with an evergreen hedge about it. Grandmother squeezes in through a hole in the hedge and I squeeze in easier after her. Then she puts the

crosses on the graves. There are others besides Grandfather's, but she kneels down by his and so I do too, and I say "Our Father" and "Now I lay me down to sleep" to myself, but I get through before Grandmother does. When she is ready we go back to the wagon and drive a little way further to church. Grandmother ties Harry Clay again, under a shed this time, and while the bell rings just a little, we walk up a path and go in to church.

I always wear a very stiff white dress and a white hat and I have one a Roman sash. That is a sash that is of many colors like Joseph's coat in the Bible was. I don't think it's pretty. Other little girls have them all pink or blue or all red. Every Sunday I say to Grandmother: "Grandmother, must I wear my Roman sash?" and every Sunday I wear it.

Church is long. I like the music—the birds and the locusts sing outside—the fans flutter—I get a little sleepy and I'm afraid I'll drop my five cents. Yes, I do love God and I try to be good—I wish my Roman sash was all pink!

Then church gets over and we go out. Grandmother talks to ladies and then we go home.

Now we'll get the big bunch of flowers.

You hold them, please, while I get the berries. Oh! here are some plums on the ground. Grandmother doesn't mind if we shake the tree a little.

Now we must shut the gate again. Down that little path is where the cows come up from the road at night. The cows made that path, but I think the fairies helped.

Won't you come into the house? Up there is where I sleep at night, and I can hear the crickets crickets out here. Those green shutters belong to the parlor. The parlor has a carpet with big rings on it that you can play marbles in on rainy days.



In the shaded corners of the garden and under the fruit trees, the flowers that like the shade grow in profusion

I help Grandmother dust the parlor in the mornings. There is a weather thing with a little man and woman, and the lady goes in the house when it rains and the man comes out, for it's politer

(Continued on page 80)



There is a charm about this garden, much of which is obtained from the use of fruit trees and small fruits instead of the generally seen flowers and shrubs

The Utility Garden

SELECTING THOSE VARIETIES OF PLANTS THAT COMBINE USEFUL FRUITS WITH BEAUTY OF FLOWER OR FOLIAGE—THE GARDEN THAT SATISFIES THE APPETITE AS WELL AS THE EYES

BY PARKER THAYER AMES

Photographs by Nathan R. Graves, Chas. Jones, and others

EDITOR'S NOTE.—Most people have some peculiar prejudice in favor of a certain type of garden. This may be influenced by personal tastes or by the exigencies of location. But the fact remains that there are different kinds of gardens to choose from as well as there are different styles of architecture. The purpose of this series is to show what types are available. This article describes the garden of a man who wishes edible results for his garden work. It will be followed by other types in subsequent issues.

THE kind of a garden to have has, no doubt, been a problem which has presented itself to many a would-be gardener, and the inability to see a way clear in which to indulge in this pastime has, doubtless, resulted in aspirations dwindling to abortive attempts at flower gardening. Shrubs, perennials and annuals are delightful plants to grow if one has the time to devote to their culture, but to keep a flower garden in first-class shape requires a great amount of time and labor, and the individual species are, at best, in bloom for only a few weeks, while most shrubs and perennials bear flowers for only a couple of weeks, being for the

balance of the year just green; but they must still be cultivated, fertilized, pruned and mulched.

For real joy I believe that a fruit and vegetable garden is the thing, because it can be made to combine beauty with utility. The fruit trees flower before the frost has really gone, and there are no flowering shrubs which can surpass them for beauty of bloom. The flowering of the fruit trees is closely followed by the fruiting of strawberries in late May or early June, according to the locality. By the middle of June cherries are ripe, and raspberries are ready to pick early in July. These are followed by currants, goose-



Perhaps you have not noticed the attractive bloom of the blackberries



Peach trees adapt themselves readily to training in the espalier form



An American garden where apple trees are being trained against simple lattice. The effect is charming and the method has many advantages



What would have been a bare wall here is graced by fruit trees. The face of this stone is strung with stout wire for training the trees

berries and blackberries. The early varieties of peaches are ripe in August and so are a few early varieties of apples, and a succession is maintained until the heavy frosts of fall arrive.

The fruit garden is a source of anticipation all summer long, and the realization will equal or exceed the anticipation. As soon as the flowers drop, the fruits commence to form. You can walk daily through the garden, watching the fruits swell, growing larger and larger; then they begin to take on color, and finally they are ready to eat—big, highly colored strawberries and peaches that fairly melt in the mouth. This can all be accomplished with a minimum of labor and it does not require a vast amount of knowledge to be successful.

A fruit garden is just as permanent as any plantation of trees and shrubs, and more permanent than most herbaceous gardens, for it does not require the occasional digging up and separating of the plants as is necessary with the iris and the peony, for instance, and it can be made just as attractive if care is taken in planting it.

Growing fruits on small suburban lots may seem impossible, for one is accustomed to think of their being produced by large trees. It is entirely possible, however, for one can purchase miniature forms which will produce bigger, better flavored, and more highly colored fruit than is usually produced in commercial orchards. These dwarf trees can be grown in much less space than the larger kinds and they are so amenable to pruning and training that they can be grown in almost any conceivable form. Exceedingly attractive displays can be



There are few shrubs more beautiful in blossom than the flowering cherry

it always seems out of place. No better vine for covering pergolas can be found than the grape. The dwarf fruit trees should be set about ten feet apart each way when grown in bush forms,

made by training them in fan, espalier, or any of the flat forms against buildings or fences, or over porches, arbors or trellises. They can be trained low on trellises to form hedges or to screen unsightly objects; in fact, their use about a small garden is almost unlimited to the gardener who has creative imagination. Apples, pears, peaches, plums and cherries can all be had in dwarf forms.

The foliage of the grape is as good as any of the ornamental vines grown about the house when one is planting for landscape effects alone; the leaves are large and the beautiful green is always attractive. In the late spring and early summer the grapes bear an abundant quantity of inconspicuous flowers, but their existence is heralded by their very fragrant odor. The grape makes an excellent vine for training over porches, arbors and summer-houses or the many pergolas which have been neglected in that no vines have been planted over them. A pergola without a covering of vines is not attractive;

but when planted against buildings they can be set closer together, the distance depending upon the method of pruning. The double-U shaped dwarf trees—which in many ways is the best form to grow on trellises against buildings—should be set four feet apart so as to allow one foot between each cane. Strawberries may be grown in matted rows or in hills of individual plants. I prefer the latter way. In this case the plants are set eighteen inches apart.

A good trellis on which



Upon the pergola at the back of the garden grapevines are trained, and the vegetables in regular array seem as attractive as the arrangement of a formal garden



An interesting group of fruit trees and dwarf fruit trees in a corner of a lawn



These rows of fruit trees will form a well shaded orchard during the summer and fall

to train fruit trees is made with iron posts set about ten feet apart, and on these wires are strung about nine inches apart. The height of the trellis will depend somewhat upon the form in which the trees are trained. It ought not to be less than six feet. This form of trellis is much better than one made of wood, as parts of the wooden trellises will need replacing in a few years. The trellises should be built before planting the fruit trees and the trees should be planted close up to the wire.

The straight lines of some formal gardens and the regularity of all, have been popular with many people from the earliest days of gardening. Indeed, the trouble of those striving to uplift gardening has been to prevent the formal garden from running into a riot of regular arrangement. Due to this, the bedding plants and the rows of Mother Carey's Chickens find less favor to-day. But there may be a combination of this regularity, espe-

cially where it exists for a sensible reason and a true purpose, as in the vegetable garden. There is much of beauty in the foliage of beet, lettuce, carrot and countless other vegetables. A careful selection can show these productions to best advantage. Sometimes an arrangement is made according to height; sometimes, according to kind. There is a great variety, giving a chance for personal taste.

One man gained attractiveness by putting his higher crops at the back of the garden. Corn formed the background for pole beans, then bush beans, peas, etc. Another gardener introduced a visitor to his formal garden. Where the pergola usually overlooks a formal arrangement of flowers, he had a pergola covered with thriving grapevines. But, in place of the flowers, the path in the center looked upon regular rows of crisp, fresh vegetables, tomatoes trained on trellises, and the graceful foliage of the pea-vines growing on upright supports. To him, it far surpassed any formal garden in the accepted sense of the word he had ever beheld.

One very attractive vegetable and fruit garden which I have visited several times is arranged in this way. The vegetable garden is divided up into several parts by walks, and between the walks and vegetables are trellises six or eight feet high on which dwarf fruit trees are trained. In other parts of this same garden there are walks bordered with dwarf fruit trees in bush form under which annual flowering plants are grown. These annuals could be very well supplemented by strawberries for the first few years after the planting of the fruit trees, as several crops could

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The great advantage of dwarf trained fruits is that one can employ them to good effect in the smallest space, as with this cherry tree



The surface of this stone wall affords sufficient room to train a row of sturdy peach trees. What is more, this method produces fine fruit

A Common Sense Explanation of Fertilizers

BY CLAUDE H. MILLER

MOST books on fertilizers are Greek to the amateur gardener. From them we gain the impression that all plant growth is made up of three chemical elements, nitrogen, phosphorous and potash, and that before we can hope for success in our gardens we must exercise certain functions somewhere between the duties of the prescription clerk in a drug store and the cook who puts together the ingredients for a batch of bread or cake. As a matter of fact plants take from the soil about a dozen elements. The reason that the triumvirate, nitrogen, potash and phosphorous, are so often mentioned is because they are the ones in which as a rule a poor soil is deficient. Consequently they must be supplied artificially to obtain maximum yields. They are the ingredients of a complete or "balanced" fertilizer. In the books, we see big formulæ devoted to the humble potato that make us feel that what we heretofore regarded as a simple tuber as a matter of fact requires as much care in feeding as a growing baby. We may think we "know beans," but after reading a treatise on "the soil requirements of the leguminoids," our favorite Saturday night dish becomes a composite photograph of the corner drug store dumped in a ten acre lot.



You as a gardener in a small way need to know but little about fertilizers from a scientific standpoint. If you go to your farmer neighbor who always has the earliest sweet corn and the ripest, soundest tomatoes and ask him about nitrates and sulphates, he will consider that you are delving in educational mysteries that have no part in his life. All he knows is that to have a good garden, he must use lots of well rotted manure, and failing in that, to make up the shortage with fertilizer.

STABLE MANURES

The difference between success or failure in our garden depends upon a great many things beside soil fertility. Some of these are sufficient rainfall, physical condition of the soil, the kind of seed we plant—both as to its germinating qualities and the proper variety—whether we have planted at the proper time, the care we give the seedlings after they appear, and the extent to which we wage war upon their natural enemies, the weeds and the bugs. But more than anything else a successful garden is dependent upon a good soil. It is the *sine qua non* of the whole affair, the major premise, the foundation stone upon which we shall build our structure. No amount of weeding or rainfall or good seeds or government bulletins or neighborly advice will take the place of this.

Practically no garden spots are rich enough in themselves. Something must be added. "Well, then," you ask, "what shall I add?" You may feel that unless you employ the services of an agricultural expert, you are rushing in where angels fear to tread. You need have no misgivings on this score. If you can get it, the thing to add is stable manure. "How much?" Just as much as you can get conveniently—and then some. If you keep a horse, the best practice is to haul the accumulation out on the garden every few days during the fall and winter, so that when the rains come, the soluble salts which it contains will be washed into the ground and not run off into the drain or sewer where they will do no good. During the growing season this cannot be done. In that case, the manure pile should be turned over about once in two weeks to hasten decomposition and to prevent it from overheating—which is technically called "burning." The white spots we often see in stable manure are due to burning, and in such cases practically all the plant food has been destroyed.

As horse manure is naturally dry, it will ferment rapidly unless it is kept worked up. By rapid fermentation it loses its most valuable fertilizing element, nitrogen, which is converted into ammonium carbonate, a volatile gas. In addition to working over the pile, our manure pit should have a roof to keep off the rains, or better still waterproof sides and bottom of concrete to hold the moisture. Cow manure according to analysis is less valuable than horse manure, but it ferments more slowly, and under the ordinary conditions of neglect that exist on the average farm will probably be just as desirable if it can be bought. Pig manure is in the same class as cow manure owing to the diversity of feed that pigs get. The two that are the most valuable are sheep and poultry manure. Where possible these should be mixed with stable manure, as the excess straw in the bedding used will act as an absorbent and hold in the soluble chemicals.

The beginner should appreciate one essential fact: that any manure is superior in most cases to a commercial fertilizer because in addition to the chemicals it contains it also is largely made up of humus. This is simply vegetable fiber of some sort. Rotted straw or leaf mold is largely humus. The chief function of humus is to improve the texture of the soil. A heavy clay may be rich enough in itself to grow a garden successfully, but it must also be friable or workable, and not compact like putty. When we consider that the delicate hair-like rootlets of a growing plant must work their way through the soil and seek out the elements that go to make plant growth, we can easily see how much better the chances of success are in a loose crumbly soil than in one that is packed or so "clayey" that it is either water-soaked or sun-baked on the surface so that it will shed water like a tin roof instead of permitting it to soak into the ground. This naturally leads also into a discussion of cultivation, which is beyond the province of this article. The point is that manure is preferable to fertilizer because it contains humus. The book farmer will dispute this and tell you that with a fertilizer we can know exactly how much nitrogen or potash we are adding, but with stable manure it is all guesswork. He is right in this, but he assumes that we know in advance just how much we should add. I regretfully dispute this contention.



We are now brought up to the subject of artificial fertilization. First of all we must ascertain whether our garden needs lime.

ARTIFICIAL FERTILIZERS

It is an important element in the successful growing of crops. The principal function of lime is to correct acidity or to "sweeten" or make alkaline an acid soil. We can easily tell whether our gardens are acid by procuring a piece of litmus paper from the druggist. Litmus paper has the peculiar property in the presence of an acid of turning a pinkish red. In alkaline or neutral solutions it turns or remains blue. The practical test is made in this way. Stick a spade into the ground and work a slot into the top soil. Then moisten a piece of the litmus paper with clean water and press it against the side of the hole. If the paper turns pink your soil is slightly acid and needs some lime—say a bag of air-slaked lime to each square rod. This is better applied in the fall and plowed or spaded in when you make the garden in the spring. Lime also acts the same as humus and not only improves the texture of the soil, but also makes available the elements of plant growth and unlocks the fertility of the soil. This fact has long been recognized by farmers in the saying "lime makes the father rich and

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When the hardy perennials show poverty of blossoms the annuals supplement their bloom with a rich profusion. Sweet alyssum is good in following the hardy primroses on the borders of the garden path

Annuals, the Garden Reinforcements

TESTED VARIETIES THAT SUPPORT THE PERENNIALS IN MAINTAINING BLOOMS FROM SPRING TILL FALL—SUGGESTIONS FOR COLOR SCHEMES AND ARRANGEMENT

BY ADELINE THAYER THOMSON

Photographs by the author

THE garden fashioned entirely of perennials has limitations. To be truly satisfying, a blossom plot must yield an unbroken succession of harmonious color effects, from early spring until frost. Where perennials are used exclusively, accomplishing such a result is almost impossible, at least, in the small garden—and most of our gardens are small. It is not that the flowering scope of the hardy plant is limited, for this class boasts an endless variety with such widely differing flowering periods that one may easily have hardy plants in flower throughout the spring and fall. The difficulty lies alone in the fact that the blossoming season of the average perennial seldom exceeds three weeks, and numbers of the choicest varieties remain in flower but a few days, with the inevitable result that bare, uninteresting patches, devoid of blossoming color, are everywhere in evidence. To be sure, one *may* work out an unbroken flowering succession with hardy plants, but the rich profusion of blossoming color, constituting the garden beautiful, may be only partially acquired.

The simple adjustment of the matter is to use certain annuals in combination with the most unruly of the perennials. Such, at

least, has been my own experience. My garden luxuriates now in glowing color at all times during the growing season, whereas, when hardy plants were used exclusively, lapses of only a half-hearted display were recurring frequently. The following annuals not only aid greatly in perfecting an unbroken succession of bloom in the hardy garden, but they will fill every nook and cranny within it with beauty.

A treasure to succeed the early flowering, hardy, edging plants, primroses, hepaticas, forget-me-not, etc., is the sweet alyssum. If seeds of this plant are scattered thickly among the mentioned perennials, dense heads of snow-white bloom will take the place of the hardy flowers as their usefulness ceases. The seeds should be sown early in March to accomplish

a perfect succession. Garden paths bordered with alyssum are exceedingly effective. A constant sheet of bloom is yielded by this annual until frost appears.

June is the banner month among the perennials, and little or no help is actually needed to enhance the display. Delphiniums, iris, oriental poppies, foxgloves, spice pinks, columbines, Madonna lilies, Shasta daisies, pyrethrums, sweet-williams, garden



White asters and snapdragon may be crowded in almost anywhere among the perennials

heliotrope and many other hardy favorites dance throughout the garden in a mad whirl of delight. Their glory is brief, however, and they must soon be cut back to the ground. The introduction to their midst of the old fashioned bachelor button—the blue variety among the delphiniums and the white with the garden heliotrope and oriental poppies—will not only prove pleasing in the color scheme, but when the perennials are spent, the annuals will flourish on and fill the bare places. The bachelor button, too, gives excellent service planted with German iris. Seeds sown in the early fall will mature plants strong enough to winter safely and be in readiness to break into lusty bloom at the close of the iris season. Grasshoppers, too, often disfigure the leaves of the iris; the planting of the bachelor button, I find, hides such unsightliness as well as continues the flower display. Seeds sown in early March (in the open) will mature blossoms for combination with delphiniums and heliotrope the last of June. Seed pods must be kept picked if a succession of flowers continues until frost.

To continue the red color scheme begun by the flaming lobelia, *monarda didyma*, lychnis, tiger lily and oriental poppy, the giant red zinnias and scarlet salvia will give splendid satisfaction. It is better, however, to raise these annuals in a hot bed, or if this is not at one's disposal, in flats seeded early in February. The seedlings should be transplanted to flower pots out in the open when the weather becomes settled, and then held in reserve until the perennials to be supplanted have finished blooming. The rank growth of the perennials will hamper the success of the seedlings if their seed is planted in

the open garden. Just here I may say that I find the paper flower pots (retailing for about sixty cents a hundred) far more satisfactory than the earthen ones, for the patent fastening at the side enables one to slip out the plant and earth, without disturbing the roots, and thus avoids shock and possible harm.

The pink variety of the annual larkspur is useful with pyrethrum, mullein pink, and the *Physostegia*. Through heat and drought this plant may be depended on to bring forth its delicate blossoms without stint, and, indeed, until cut down by very severe frosts. The blue variety also I use among the blue platycodon and delphiniums in connection with the bachelor buttons.

Pink and white Shirley poppies, though possessing a short flowering period, are useful plants to follow in the train of the Canterbury bells, Shasta daisies, and English and Spanish iris. These annuals are charming, too, among the perennial phlox, brightening such plantings during July before the phlox comes

into flower and then giving way in August to the rich harvest of the phlox. To follow the flowering succession of the phlox, I fill in from the "reserve force" quantities of zinnias—of the delicate light pink shades—not the magentas. This planting is always wonderfully satisfactory, for the zinnia is a prolific bloomer and the light pink varieties are very beautiful.

The double variety of the French marigolds, filled in among Japanese iris, after their flowering season is over, brings a new beauty into the garden that is strikingly effective the rest of the season. The prolific spear-like foliage of the iris seems not only to enhance the beauty of the annual, but subdues (Continued on page 52)



The pure white nicotiana is valuable to fill all bare places in the garden



The annual larkspur, especially the pink variety, is well used to succeed pyrethrum and *physostegia*, and may be depended upon to survive unfavorable weather conditions



Bachelor's buttons look well among the delphiniums and iris, and continue the bloom when these have ceased to flower



There was a joy in the open air life, a freedom from restraint and conventionality, that made the simplest tasks seem well worth the doing and sent me early into the fields, full of enthusiasm and energy

Adventures With an Apple Orchard

BY JOHN ANTHONY

Photographs by the author

NOTE.—This is the second and concluding chapter in the adventures of John Anthony, a city man who made a success of apple growing on an old New England farm. The first article appeared in the March number and told of the good results of the introduction of new ideas in orcharding.

WHEN I returned from the summer school at Hope College I was bubbling over with enthusiasm and had energy to burn. I wanted to pull up the potatoes, treat them to a dose of formalin and start them over again. I begged for ribbon to tie around the best ears of corn that they might be saved for seed. I was about to compute the rations of the cows in terms of proteins and carbohydrates until I found that they were eating only the grass of the pasture. Then I transferred my attention to the horses. I examined them for splints, for founder and a number of other things that I didn't even know the name of.

But apple picking was upon us, and I settled down to work, the hardest work that I had ever known, but the most fun that has ever crossed my path.

I fired such a multitude of questions at Mr. West about packing apples in boxes, and told him so much of my plans for doing it in the future, that he was willing to quiet me at any price. When I had talked him dumb and partly deaf on the subject, he suggested that I go ahead with it this year and not wait until I was alone on the place. I didn't wait an hour after this, and letters were sent scurrying around the country in pursuit of information. I didn't know where to get a packer. I hadn't the faintest notion of where to find a box maker and only the vaguest idea of the accessories needed to put into the box.

Lithographs must be found for the ends of the boxes. These latter were finally ordered from Oregon, manufactured in San Francisco and shipped across the continent by express. But they reached me on time. I ran short of corrugated caps and of layer boards, and at one time had a lot of them coming by freight from New York, a duplicate lot lost on the road to the north, and a third consignment hurrying to me by express. Despite these efforts, packed boxes piled up on us while we were waiting for the arrival of corrugated caps before putting on the covers. This can all be charged up to experience, and to the conservatism of northern New England apple growers who keep their information to themselves. From Massachusetts and Connecticut came answers to every question, answers filled with information. From the Champlain Valley came no replies, even from the men who talk the loudest (in public) of brotherly love.

I watched tender, early apples emptied into the gathering barrels from the picking baskets, poured with an attempt at care, yet poured, one apple falling on another and each collision meaning an additional bruise. I saw apples picked up from the ground, carelessly examined for injuries and then added to the contents of the barrels. Later I saw the contents of these barrels poured upon an unpadded sorting bench, again pawed (this exactly describes the operation) over and finally emptied from

a basket into the shipping barrel. And right then *I knew that I was safe*. The city man had won out. Mr. West had spent the best years of his life in caring for his apple trees, and now, at the last moment, he was throwing away a large proportion of their return.

In justice to Mr. West I wish to say that his ideals had been formed from conditions existing within his limited horizon. The apple buyers who came to buy his crop, the neighbors who never trimmed or sprayed their trees and shook the fruit to the ground, these were the people with whom he talked and from whom he formed his ideals. His life had been too hard to make real the world of books, a world in which I had so largely lived. From his inner consciousness he had evolved and on his own initiative put into practice many improvements that kept him head and shoulders above anyone else in the neighborhood. But my ideals had been picked up from reading about the most advanced growers in the country.

A couple of rainy days intervened and gave me a chance to make two changes. I padded that sorting bench with hay—padded it until it was soft as a mattress and covered it with a new strip of carpet. Then I got hold of the picking baskets and took them into the house. I asked the girls how to cut gunny sacks on the bias and how to sew them together so as to make them hang right, for those baskets must be lined. They took pity on my masculine

helplessness and showed me how by doing it. In return there were many trips between the woodpile and the woodbox, so many that I can think with equanimity of my wiles.

Mr. West had begun the season by playing hookey, and he had enjoyed it. When his daughters suggested that he take them to the State Fair, he refused, re-considered, and accepted. It was a great day for me, for I was left in charge of the picking gang.

"Boys, we will leave every apple that falls to the ground right where it is, and you will hand your baskets to me. No pouring of apples to-day."

Every apple that was gathered that day I placed in the barrels by hand. When night came I had a feeling of extreme virtue, but, oh, what a backache! It was weeks later, in the packing house, that I learned the value of that day's work. One of those barrels of pound sweets (a green apple that shows every bruise) came to me at the end of a day when I had been wading through a discouraging lot of mangled apples. Hard, winter varieties had been so roughly handled that every other apple showed a bad bruise. I had been throwing away, throwing away, all day long, when the barrels of sweets came to the table. I didn't even

dare to let them roll from barrel to bench, so perfect and free from bruise were they. Weeks afterward I saw some of them in a distant city and still they retained their unmarred condition. The man that pours a basket of apples in my orchard next year has got to be able to lick me.

But right here I want to put in another warning. It isn't the whole game to pick and pack apples with care. I put up some barrels of Emperor Alexander—packed them right in the orchard myself, and knew that not a single specimen was bruised, knew that the middle of the barrel was as good as the top, knew that it was an "honest" pack. When these barrels were sent to the commission man I wrote and told him of the fact. And we received the lowest price of the season for those barrels! True, the head of the house wrote to tell of the condition of the market and to promise to find a sale for apples packed as those had been, but Hiram chuckled. Honesty is the foundation of

this business, without which the whole edifice will collapse, but the foundation isn't the completed edifice.

My box packer had come, the young University man whom I had met at Hope College was with me and we began the work which I so fondly hope is to take my apples to all parts of the world. Does this sound chimerical? This first year I had orders to ship them to England and to the West Indies. I had orders from Florida and from Canada, from Dakota and from Maine. I think



An orchard of fruit trees had grown up around the house, and this was the scene of long hours of serious toil when the apples began to ripen

it is a dream that will come true and be fully realized.

We decided to pack in two grades, fancy and number one. The first named was to contain apples uniformly colored, regular in shape and without blemish; the last named was to contain apples that fell just below this in some one requirement. Apples for neither grade must be below a certain size. Andrews selected specimens that met these requirements to show Mann and me. Then we began the sorting for the boxes. It was a test of firmness of purpose, a test that continued day after day, that held despite the comments of men who had grown gray in the business. It was the most discouraging work that I have ever done, and at the same time the most inspiring. Discouraging because so few apples could be admitted to the higher grade, inspiring because of the standard which we lived up to and because of its reaction on everyone about the place. At first it was impossible to get the pickers to use care in their work. If I spent my time in the orchard and stood over them they would use some care, but I had to be in the packing house—had to be there every minute of the day. Andrews and Mann were working with me, heart and soul, but Mr. West could overawe them. I never knew at

what moment he would come into our workshop and send out some apples in my boxes that would break up the work of a season. When I was on guard the thing wouldn't happen; besides, my services were needed at the sorting bench. As the days went by and the pickers saw our persistent rejection of bruised apples, the certainty with which they found their way to the cider pile, they began to improve. Occasionally we had one of them to help us in the packing house. Our choice always fell on the most careful worker. Rivalry for this distinction began among them. Apples were no longer spilled into the barrels. The baskets were lowered and the contents poured with care. After dinner the packing house force met the pickers at games. An *esprit de corps* came into existence.

One day we closed up work in the packing house for an afternoon to help in the orchard. The friendly rivalry was on hand. The old hands thought that the fellows from the packing house were not to be seriously considered as pickers. Later they changed their minds, for we steadily filled more barrels than they did, filled them with cleaner picked, better apples. But they can never know the wallop that we really gave them. Only Andrews and Mann and I know that. With the regular run of apples coming to the sorting bench, Mann and I had hard work to keep Andrews supplied with apples for his boxes. When the barrels which we had picked that afternoon came to us, I kept them both on the jump all day. Andrews packing boxes and Mann facing and packing barrels. With our work in the orchard, one sorter could keep two packers busy. Under the old style, two sorters were kept busy grading for one box packer! Figure out for yourself the saving in that one item. And a saving utterly without taking account of the larger one of better quality fruit to ship.

Next year this higher ideal can be enforced from start to finish. Mr. West's presence on the place forbade it this season. He thought that he was in favor of it. He thought that if he told the boys to pick only perfect apples and didn't let them see him pick up windfalls and drop them into the baskets that they would fulfil his spoken words instead of his secret wishes. And right here lies the secret of the whole matter. Have the wish for it in your heart and show it by word and deed. Let no doubt exist in the

mind of a single person on the place that you mean to have every wormy apple thrown away, that you will not ship a defective one, that to gather it is a waste of time—and you will find the boys will help you out.

Every evening the packing house was swept out and left clean for the next day's work. Apart from its immediate effect, this one action had a far-reaching one. The boys cleaned their shoes before they came into our workshop, they learned to expectorate outside, instead of inside, their language improved and there was a distinct moral improvement in every one of them. One was literally guyed off the place because of a moral lapse. And all this came from mere hints, from an example that did nothing more than suggest it. How I did wish to scrub that floor! But I just couldn't do it this year. It would have come too close home to Mr. West, and that I couldn't do.

Maybe you think that this has little to do with packing and selling apples. It has everything to do with it. One day the local banker came to the place. I didn't know who he was, nor that his friend was the representative of a big mercantile agency. They watched us and saw the standards that we kept up to, saw us throw away, throw away apples that failed in some slight particular to come up to the standard which we had set for ourselves. I told you earlier that I had orders to ship apples abroad. This is one of the reasons

that gave rise to that demand.

Do you find anything in your city life that is half as good as this? I worked sixteen hours a day. Before the boys were up in the morning I was at the packing house getting things

in order so that the work could go on smoothly. After the others had gone to bed I was banging away at the keys of my typewriter, keeping up the correspondence that was becoming a decided item in my day's work. But at the end of the season I had a grip on that business. I had learned how to pick, to pack and to sell. I had learned that I could inspire every man on the place and turn him to my ways. Applications for next year began, because

the boys wanted to work on a farm that was jumping ahead as this one had done in a single season. There was no one to thwart me in my wish to work, in my wish to do the very best that I knew how. And that is why hope and faith came back to me.



Lone trees scattered about on the rocky hills defied the summer winds and storms



The pastures stretched away to the eastward, hundreds of acres of rolling, sunny open where we breathed deep the spirit of the out-of-doors

An Experimental Year in a Flower Garden

WHAT WAS LEARNED ABOUT COLOR ARRANGEMENT AND PLANNING A GARDEN—
THE DIFFERENCE BETWEEN THE PRINTED DESCRIPTIONS AND THE ACTUAL RESULTS

TO live in a garden has, for years, seemed to me the acme of earthly bliss. The garden of my dreams has always been enclosed, not so much to shut out, as to shut in, for I would share the pleasures of my garden with all who love its contents. My little imperfect one of to-day may be a preparation for, or foretaste of, the joy that will be mine when my dream comes true.

It was in the years when a city flat was my home and a public park my garden, that I began to study the care of plants and to choose the ones—which varied but slightly from year to year—that I deemed essential for the smallest beginning. The opportunity for demonstrating my "book knowledge" came, when, two years ago in August, we came into possession of a house and a 37' 6" x 150' lot in Oak Park, a suburb of Chicago. The lawn in front and a few feet from the house in the back was in fair condition; the rest was bare earth and wild grass sod, over which were scattered dilapidated barrels, lime, sand and minor building debris. I began at once to reduce some of my garden ideas into concrete form and soon had a plan on paper which I have been working out and which has, on the whole, thus far been satisfactory. By the fifteenth of October the portions assigned to the service garden, as well as the shrubbery and flower border, had been spread with manure and spaded and the shrubs and a few bulbs planted. The soil is light sandy loam, easily worked. My actual experience in flower growing had been so meager that I confined myself to old, easily-grown plants and shrubs, with a few additional ones I had seen blooming in parks.

I have drawn for greater clearness the plan of the border, the numbers on it corresponding to the appended list. I wanted, first of all, of course, plenty of green to serve as a background for the flowers. By consulting the plan, three sumacs will be found in the southeast corner, with one elder in front. Had I then this year's experience, these two shrubs would have continued clear across the garden. The dark green of the sumac and lighter tones of the elder with their luxuriance of growth make them desirable, aside from the beautiful bloom of the latter in the spring and the brilliancy of the former in the autumn. The syringa coming next along the fence is all that could be desired, but the five Persian lilacs—three purple and two white, beautiful in blossoming time—are to me undesirable as a background



The dark green tropical foliage of the sumac made an excellent background for the blossoms in the border

BY M. VIRGINIA ARFORD

Photographs by Mary H. Northend and Thos. Marr

shrub, particularly the white. The foliage is small and thin. The Jap snowball has yet to prove itself more desirable than the old it has all but superseded. Had I known enough to have placed these foreign plants in front of sturdier growth, their meagerness would not have been so apparent and the impression more favorable. In front of the lilacs, the three Rugosa roses are satisfactory with clean, fresh-looking foliage—the older dark and rich and the newer flower producing branches of a warm, tender, spring-like green.

Running from the sumac north across the lot are two high bush cranberries, only one of which has bloomed and no berries formed last year, and few this year.

possibly because it is not sufficiently well established. Nor has the Betchel's crab blossomed, though growing; but the two

double flowering almonds, pink and white, were covered with small rose-like flowers. The three Van Houtts spiraeas flowered even last year, and this spring were a mass of white. When these shrubs were planted and well mulched, I waited for spring. However, with the coming of the first catalogue in February, my gardening in a sense, as well as its difficulties, began. There were difficulties of selection, for all seemed so desirable. What to leave out became a problem and the list was revised many times. In the end, as with the shrubs, I chose the reliable, common flowers to which were added a few perennials, highly recommended by those practical writers whom I have come to regard as authorities.

Not having the necessary space to put the colors in separate beds, I worked out a color scheme for the annuals along the north, which on paper looked very attractive, and in my ignorance I assumed that labor, which I was willing to give freely, was all that was required to transform the brown seed into the tints of my color box. As will be seen I have simply separated the three primaries, red, blue and yellow, by secondaries, except in the uniting of blue and yellow, which would, of course, result in green. These two primaries make a natural and pleasing contrast, and not too strong, when white predominates where they merge. I have made yellow in the corner the pivotal color, with the warm reds in scarlet and cardinal at one end and carmines and pinks at the other. Violet—a product of pink (red) and blue—is placed between these two primaries. Again, yellow combined with scar-

Shrubs with Year Round Beauty



Climbing Bittersweet
(*Celastrus scandens*)

SOME OF THE DECIDUOUS SHRUBS THAT ARE BEAUTIFUL FOR THE VARIOUS COLORS OF THEIR FRUITS—PLANTS WHICH HELP TO MAKE BRIGHT THE FALL AND WINTER

BY FLORENCE BECKWITH

Photographs by Nathan R. Graves



Black Alder
(*Ilex verticillatus*)

IN planting the home grounds, the majority of people pay very little attention to selecting shrubs and vines for winter effects. Apparently they are content with a few weeks of foliage and bloom, with no thought of the months of dreariness which follow, a dreariness which might easily be relieved by the planting of shrubs which produce bright-colored berries in the late fall and winter. Many shrubs are really more ornamental in fruit than when in flower, and a suitable selection will brighten a lawn or garden in a surprising manner. A single bush with scarlet berries will light up the whole landscape, gleaming brightly in the dreary, rainy days of November and showing gorgeously against the snows of December. One admirable characteristic which some shrubs and vines possess is that of being so brilliantly effective in winter. With a background of evergreens, or when planted in shrubbery with others which retain their foliage until late in the season, the brilliancy of the bright-berried shrubs is enhanced by the contrast, and when planted in masses they produce a truly gorgeous effect.

A shrub which is highly ornamental in the fall and early winter is the *Euonymus*, variously known as the strawberry tree, spindle tree, burning bush and wahoo. The brilliantly colored, peculiarly shaped fruit covers the shrub in the greatest profusion and makes it one of the finest for ornamental purposes. The color of the fruit varies in different species; in some it is deep red, in others rose or pink, crimson, scarlet, and cream, and there is a white variety. The capsules open in the fall like those of the bittersweet, displaying bright orange and scarlet arils hanging on slender threads. The fruit usually re-

mains on the branches until late fall or early winter. In some species the leaves turn a purplish red in autumn, lending additional beauty to the shrub. Some species attain almost the height of trees, but most of them are classed as shrubs. Altogether, the *Euonymus* is one of the handsomest ornamental shrubs we have.

The black alder, *Ilex verticillatus*, is a valuable but much neglected native shrub. In the summer it is so absolutely unob-

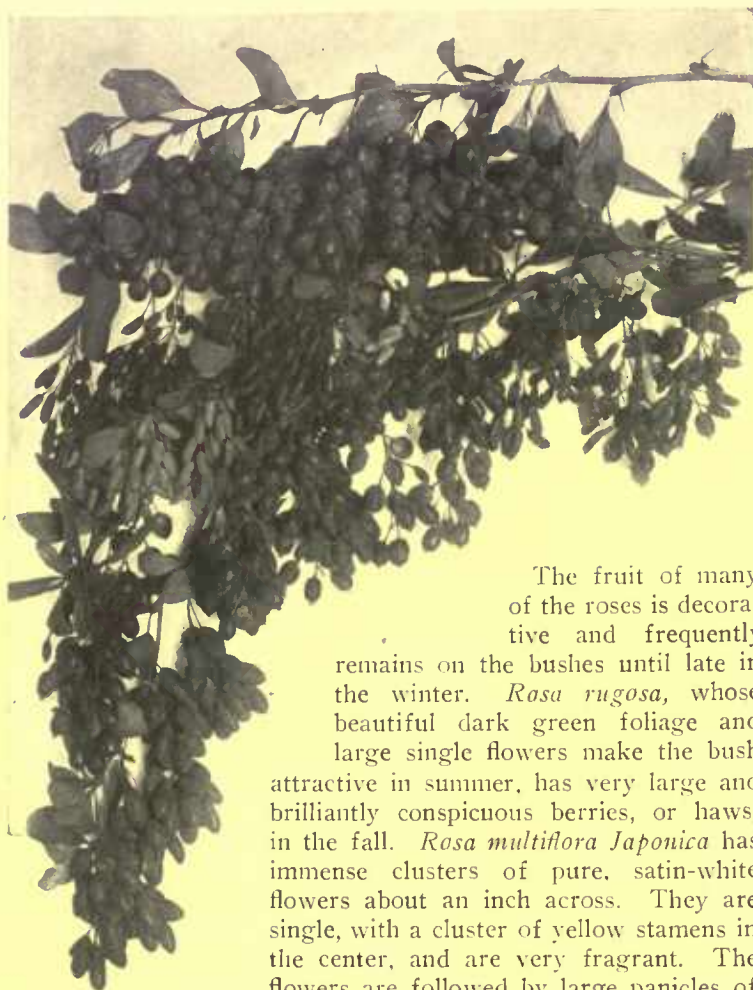
trusive that one scarcely notices it; but when the leaves drop, the scarlet berries which crowd the branches glow with dazzling color, producing a wonderfully showy effect. The berries remain on the branches until late winter. If the leaves were only evergreen, the *ilex* would far surpass the holly as a decorative shrub. As it is, it is well worthy of cultivation and most nurserymen catalogue it, some under the name of *Prinos*. Naturally it grows in rather wet soil, but it accommodates itself very well to less favorable situations. In decorations the black alder berries can be used with the leaves of the holly with fine effect.

The high-bush cranberry, *Viburnum Opulus*, is another native shrub seldom seen in cultivation, but in every way deserving of attention. It has fine broad foliage which takes on bright tints in autumn; the flat cymes of white blossoms render the bush at-

tractive in spring, and the clusters of brilliant scarlet fruit which begin to color in July and remain on the branches all winter make the shrub very ornamental. The fruit is edible and highly esteemed by many, so the shrub is both useful and ornamental. Although the cranberry grows naturally in moist ground, it succeeds well in any location.



The *Berberis Thunbergii* is considered by many to be one of the most perfect shrubs; not only on account of its easy growth, but because of its delightful foliage and wonderfully colored berries



The number of different kinds of barberry is exceedingly large

The fruit of many of the roses is decorative and frequently remains on the bushes until late in the winter. *Rosa rugosa*, whose beautiful dark green foliage and large single flowers make the bush attractive in summer, has very large and brilliantly conspicuous berries, or haws, in the fall. *Rosa multiflora Japonica* has immense clusters of pure, satin-white flowers about an inch across. They are single, with a cluster of yellow stamens in the center, and are very fragrant. The flowers are followed by large panicles of bright fruit, very showy and beautiful, especially when seen in contrast with the snows of winter.

That old favorite, the snowberry, *Symphoricarpos racemosus*, makes a pleasing addition to the landscape with its snow-white berries growing on the ends of the drooping branches and lasting well into the winter. The shrub has many good qualities, as it will grow in any soil, fill in corners and spaces where few plants will flourish, and is excellent for planting under trees and on dry gravelly banks. The leaves fall early and the berries make the prettiest show if the bush is planted in front of evergreens, or shrubs which retain their foliage late in the season.

The barberry, or berberis, makes one of the most beautiful specimen shrubs, and should be in even the smallest collection. The bushes vary in height from two to six feet, and the different species offer a great variety in leaf, flower and fruit. The showy orange or yellow flowers in May or June are succeeded by bright-colored fruit, which, though small, is produced in such profusion as to cover the branches and make it one of the

most ornamental shrubs in cultivation. *Berberis vulgaris*, the common barberry, is the species most generally cultivated. It bears a profusion of fruit which remains on the branches until the new leaves start in the spring.

Berberis Thunbergii, or Thunberg's barberry, a Japanese species, has been pronounced the "finest shrub." Its growth is very symmetrical and the bush seldom needs to be trimmed. The foliage changes to a beautiful coppery red in the fall, remaining a mass of crimson and gold for weeks, and the bright coral-red berries are persistent on the bush all winter. This species is dwarf in habit and especially adapted for low, ornamental hedges.

The purple-leaved barberry has rich purple foliage and scarlet fruit. It is a beautiful shrub and largely used for contrast with plants of light colored foliage. Some species bear dark purple fruit and are desirable for contrast and variety.

The great profusion of fruit often weighs the slender, drooping branches of the barberries to the ground, and tends to make them extremely ornamental. They are equally desirable for growing in masses, in front of taller shrubbery, as single specimens on the lawn, or as an ornamental hedge. The fruit is acid but agreeable, and makes delicious preserves and jelly.

The climbing bittersweet, *Celastrus scandens*, one of our native vines, grows very commonly over the old rail fences and stone walls along our roadsides, but it is never fully appreciated until seen in the winter festooned among the branches of an evergreen tree. Its glossy foliage makes it a presentable vine at all times, but when the clustered berries, golden yellow



The peculiar creased berries of *Euonymus europaeus* shade from dark purple to a bright scarlet and last long after the leaves have fallen



The high-bush cranberry (*Viburnum opulus*) is another brilliant red-berried shrub that has the additional value of having edible fruit

in color, round and smooth at first, open and display the bright scarlet arils within, it truly becomes an object of beauty. The berries retain their form and bright color all through the winter, and swinging, swaying from the branches of the evergreen, the vine carries our hearts by storm and wins for itself a permanent place in our regard. It is not particular as to soil or location, flourishing anywhere and everywhere if given half a chance. It needs no training nor pruning; left alone it will show its own true grace.

I have named only a few of the shrubs which would tend to make the outlook from our windows brighter during the late fall and winter months. More might be mentioned and among them some whose brightly colored bark

would add to the attractiveness of our lawns and gardens, and cheat winter of half of its dreariness.

A word may be of service here about cultural direction. It is the general rule to plant evergreen varieties of shrubs and trees in the spring. Roses, being tender plants, are planted in the last of March or the first part of April, as a consistent practice. So, although fall planting of shrubs may be advocated, there are special cases when it is not only more advisable to plant in the spring, but it becomes necessary to do it at that time. If the ground has not been properly prepared, or has not had thorough cultivation, fall planting should never be resorted to. Most of us are suddenly seized with the enthusiasm for gardening, and so, to make up for the past dull years, feel that a prime necessity is haste, in order to accomplish as much as possible in as short a time as possible. If, for any of these reasons, we are just beginning to plant, and are anxious to employ the shrubs described in this article, it would be a great mistake to wait until fall, simply because the majority of authorities recommend that time. Anything may be planted in the spring with good results, and with considerably less danger of injury from the cold than at any other time.

This is especially true in the case of shrubs valuable for



After the beautiful satiny flowers of *Rosa Multiflora* are over, large clusters of brilliant berries appear

Nothing is more beautiful than the white waxy berries of the snowberry that is so valuable for its easy cultivation

their winter berries. Were we to wait until the fall, our first winter would be just as bare of cheer as it always had been, and it would mean a loss of a year and a half in the enjoyment which one gets from the brilliant colors of the berries. We might as well go ahead, then, feeling confident that planting now is the thing for us to do.

Shrubs are very easy of cultivation, and indeed have but one chief requirement, that is, soil preparation. Pre-

vious to the receipt of the plants from the nursery, the ground should be ploughed or thoroughly spaded. It should be gone over much in the same manner and with the same treatment that is given the corn field before seeding corn.

The matter of fertilizers is of importance, also, and the land should be made rich with plant food, taking care only that no raw manure comes in contact with the rootlets.

If you use nursery stock, as you probably will, attempt to get transplanted bushes, or, failing in this, see that the dormant stock you receive has been carefully cellared over. The roots should not be all dried out and shriveled up.

If, for any reason, the shrubs may not be put in the ground immediately, remove their canvas coverings and "heel-in" in a trench, spreading good earth over the roots, and leaving them packed up in this way until you are ready to put them in the ground. When you are ready, go over the roots carefully for any bruised filaments, and cut these off clean with a sharp knife or pruning shears. Dig a hole at least 2 inches larger each way than the spread of the roots; then fully extend the roots, and, carefully spreading them out, lower the plant in the hole. Where the soil is very dry, it is often advisable to pour a generous supply of water in the hole, and then as the dirt is thrown in mix a little more with it. Compact the earth about the roots and well up on to the wood of the plant. Even shrubs of this kind should be well cut back at the time of planting. The beginner should overcome the reluctance most have at the ruthless clipping of apparently good branches.

As to arrangement, it is impossible in this space to make more than a cursory statement. As most of these shrubs will be used for mass planting, one is more easily apt to err in spacing them too far apart than too close together. The most beautiful effects are achieved from the close mingling of the branches. Even if you purchase more bushes than you will eventually need at the expiration of a year or so, you will save in appearance in the end by planting too many and then removing the superfluous ones that appear to be too crowded.



The common barberry should not be excluded from the list of plants desirable for their colored fruits. It is beautiful both summer and winter



The common bittersweet of the roadside fences makes a most desirable addition to the garden



The sandy soil could not discourage the slender stalks of the Madonna lilies from growing up as sturdy as though their roots were in loam.

My Garden in the Sand

HOW A SMALL SAND DESERT GREW A SEASON'S SUPPLY OF VEGETABLES AND FLOWERS—WHAT CULTIVATION DID TO SAVE MOISTURE

BY GLADYS HYATT SINCLAIR

Photographs by the Author and others

WE moved in October to a rented house in a small suburb half an hour from the city. The little house stands close to the street, as do all the other houses, with grass in front and at the sides, and a wilderness of weeds behind. I had always been a flower enthusiast, so this pest-infested place received my immediate attention.

The neighbors on either side, owning their places, had let them run to sod. The man behind us had gardened for several years and then, in despair, turned his whole yard into a chicken park. "You can't raise anything on this ground," said everybody. "It is nothing but a gravel pit."

Really, it isn't much else, and when you get the stones out of gravel there is very little left. But I had a wagonload of plants, bushes and vines from my old garden, some knowledge, limitless strength and enthusiasm; so I listened—and went on.

The weedy wilderness measured fifty feet each way. A dead peach tree cumbered it, an old strawberry bed straggled

down the middle of it and two grape vines sprawled on the ground around two drunken posts. The vines had never borne.

By a lucky fluke I got a two-horse load of rotted manure from a farmer for two dollars. I cut down the peach tree, pulled and burned the weeds. Then I put all of the manure on the half of the garden to be devoted to flowers, giving the grape vines that stand there a generous share. For fifty cents I hired a boy to spade enough ground for my roses and perennials and I set them out. They all lived.

In April I pruned the grape vines the best I could, persuaded the landlady to buy a hemlock two-by-four, persuaded the Man to nail it at the tops of the reformed posts, and tied up the vines. Then I spent another fifty cents for spading, did some myself when help was not to be had, and raked stones. Stones! The stones I raked would build me a mausoleum! I could rake a border perfectly clean, go right over it again and rake out as many more. That may seem paradoxical, but the process wasn't. When I had put



The border of moonpenny daisies showed a pleasing mass effect, and hundreds of blossoms were picked from it

all the time in that I could afford I sowed my flower seeds; the last of May I planted dahlias and gladioli.

I had never made a vegetable garden, and was doubtful, all winter, as to whether I should. But the knowledge that fresh vegetables are not always to be had here as in the city market and a nervous dread of the weeds and desolation that would reign in the unworked part sent me at it. Not counting the strawberry bed, it measures twenty feet by fifty. Fifty cents ploughed and dragged it—deviled it, the Man said—and it really seemed as though the plough had left quack grass unturned while meanly hunting stones to throw up. More raking; a larger mausoleum!

The sand that was left, between stones, was so very light that I bought fifty pounds of pulverized sheep manure to use on it. I was so ignorant of vegetable growing that I had to consult neighbors or magazines to learn when to plant, how much, how far apart, etc. I sowed radishes, two short rows of lettuce and a pint of Telephone peas. I planted ten hills of Evergreen corn and, ten days later, ten more hills, with pie pumpkin seed in every other one. I planted four hills of White Spine cucumber, nine hills of Osage musk melons, twelve Dwarf Stone tomato plants, a dozen early cabbage plants and a short row of carrots. I used two large trowelfuls of the sheep manure for every hill and scattered it generously in the seed trenches, mixing it well with the earth.

We had a very wet spring, which was bad, because everything rooted close to the surface, though all grew vigorously and looked fine. "You must have bewitched the ground—it never grew things like this before—but just you wait till July," said everybody.

I waited, and I hoed. There were weeds enough, after their previous years of reveling there, to keep me going; but when they were slaughtered I kept at it. From mid-May to mid-July I was the Woman with the Hoe. I knew that with the summer drouth would come the garden's question, to be or not to be; for I had no water except in the well on the place; and pump water I would not, for flowers or vegetables either.

The radishes and lettuce came on and were crisp and delicious, the radishes of wonderful size and the only unwormy ones grown on sand around here, which I cannot account for. The hot weather hit the peas just as they were filling, and they struck then and there. We had three meals from them and pulled them up to make room for perennial seedlings—but peas were then eighty cents a peck, so we enjoyed them.

The cut worms took five of my twelve tomato plants, and I saved the rest by putting bottomless tin cans around them. The manure and hoeing must have suited their notions, for they thrived amazingly, and we had ripe tomatoes in plenty on

the table from the last of July on until early in the autumn.

The grapes were a great surprise. The way the stubby things began to eat and grow in the spring was astonishing, and they set full of bunches and brought them to luscious green and purple maturity with a fervor of gratitude for my well-meant but ignorant attentions that touched my heart—and my palate.

In June began a drouth of weeks' duration. The corn rolled and the vines drooped pitifully, but I hoed straight through and talked to them encouragingly, and the corn and melons and tomatoes grew in spite of the worst heat in twenty years and no water. Then came a big rain, two weeks of fine growth and another drouth, not so long as the first. The two weeks gave the cucumbers a splendid start, and they gave us a hundred fine long fellows for slicing before frost. In all I gathered a bushel of tomatoes, sixty ears of green corn, a half bushel of carrots, besides leaves for bouquets all summer, forty prime musk melons and ten fair cabbages—only fair, because I did not get ashes and salt on them soon enough.

My vines were not troubled with insects. I frustrated a few tomato worms, but the green brutes that the ants make love to injured the corn in spite of tobacco tea, as they did the cosmos, sunflowers and aster roots.

Did it pay? Well, that's as you look at it. The flowers paid, of course; one grows them for satisfaction and gets it—and I got flowers for the whole neighborhood—from the beds of Madonna lilies and the wealth of moon-penny daisies alone. Besides, it is certainly solid satisfaction to bring in from one's own garden the beauty and good taste that I brought one August morning and snapped for future encouragement. Probably the time spent on the vegeta-



By the early part of August the vegetable garden was in full swing. The first planting of corn was bearing, and the second showed a good growth

bles would have earned the money to buy them if they had been buyable, fresh and good when I wanted them, which they were not. If one were doing housekeeping only it certainly would have paid, for we were using tomatoes freely when they were fifteen cents a quart at the stores, we often gave cucumbers to the neighbors while they were two for five cents, and our large melons would have cost ten cents each. One of them weighed two and a half pounds.

The work was mostly done in the early morning and after supper when it was cool and pleasant—though, through May and June the garden called and I answered when it was neither the one nor the other.

Values are relative, and whether or not gardening pays depends upon how well one likes or how much one hates gardening. In one respect it paid. I proved that one woman and one hoe, with Fertilizer for grand vizier, can grow a good garden in gravel and snap her fingers at drouth and heat.

A Commuter's Vegetable Garden

A GARDEN TWENTY BY THIRTY FEET THAT SUPPLIED FRESH VEGETABLES UNTIL OCTOBER WITH AN AVERAGE OF BUT TWELVE MINUTES OF WORK SPENT EACH DAY

BY W. O. QUARTLEY

MANY commuters have perhaps come to the conclusion that it does not pay to raise vegetables and attend to business at the same time, but my own experience shows that both may be done successfully, and that without giving up any part of Sunday or the Saturday half-holiday. An average of a little over an hour a week, for the working season, was sufficient to raise nearly ten dollars' worth of vegetables. All the work was done before breakfast, or after seven o'clock in the evening.

It certainly is not profitable to rise before daylight and use up one's best energy in the garden, before starting the regular business of the day. But a half-hour at a time will be less tiring, and at the same time will produce satisfactory results, as the following experience shows.

The plot measured twenty by thirty feet and the cost of seeds and plants did not exceed one dollar. The vegetables planted were: lettuce, peas, potatoes, radishes, beets, onions, string beans, bush limas, carrots, chard, salsify and celery. These were sowed in twenty-foot rows running north and south, and the plot accommodated about twelve rows at a time, spaced according to the room required for each variety. Counting the late crops, which replaced the early sowings, there were



A large plot of ground is not necessary in order to raise vegetables for home use

about twenty rows sowed during the season. Twelve varieties of vegetables were thus accommodated in this small patch.

I found that potatoes grew exceptionally well in a combination of peat moss, stable manure and decayed sod. In planting, each piece was covered with sulphur flour to prevent fungus growth. Although the yield was not remarkably heavy, probably owing to the very dry season, the quality was uncommonly fine.

I managed to prolong the bearing season of the wax beans, that were sowed on May 6th, until frost, which came the middle of October. This

was done by continual picking; the pods, in this way, were prevented from maturing and the bearing season lasted over fourteen weeks, instead of two or three. The plants took a partial rest in August, giving only a small yield during that time.

I effected a saving of work by planting in the following manner: A double row of peas was sowed on each side of one of the potato rows, so that when the potatoes were dug for early use, in July, the soil turned up could be thrown into a ridge along the roots of the peas, at the season when they most needed a mulch. At the same time a trench was started in which to set

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The Long Orange carrots proved successful, and were of excellent quality and flavor

Variety	Number of 20 ft. rows	Sowings	1st Pickings	Length of yield
Onions—White Sets	2	May 2nd w'k.	July 1st w'k.	1 month—stored rest till spring
Salsify—	1	May 1st	Dec. 1st	2 weeks
Radishes—Bright breakfast	1	May 1st	May last	
Potatoes—Bovee	2	Apr. 2nd	July 1st	till fall
Peas—Advancer	2 (double)	May 1st	July 1st	1 month
Lettuce—Big Boston		Apr. last	June 3rd	2 weeks
Lettuce—Half Century	1	May 2nd	July 1st	2 weeks
Celery—Golden Self Bl.	2	July 3rd	Late fall	late fall
Carrots—Long Orange	1	June 2nd	Aug. 3rd	in sand for winter stored for winter
Beet—Columbia	1	May 2nd	July 3rd	till frost
Bush Lima—Burpee's	1	May 2nd	Aug. 2nd	till frost
Bush Wax Bean—Golden Scimitar	1	May 1st	July 1st	till frost
"	1	July 2nd	Aug. 2nd	till frost
"	1	July 4th	Sept. 1st	till frost
"	1	Aug. 1st	Oct. 1st	till frost



The wax beans were sowed the third week in July and picked seven weeks later

The Naturalizing of a City Man



Editor's Note:—The author of this narrative—begun in the December number—had refused to write the story of his experiences in going from business life to a farm. His objection was that the published account taken from his closely written diary would contain nothing of the joy and inspiration he felt in getting close to Nature, and would be merely a matter-of-fact list of happenings with their message lost. He finally consented to write it in his own way, allowing memory and imagination to lend color to those days of struggle which are now cherished recollections. He preferred to hide his identity under the disguise of another person, but the essential facts are true and full of practical information. This is the fifth installment and deals with the first rewards of the man's labors. Subsequent issues will show how the farm developed to a paying basis.



IN spite of the multitude of things that occupied his attention during these busy opening weeks of spring, Mantell could not stop thinking about the amount of waste land which the plan of the farm had revealed. It bothered him incessantly, and took him off on many a solitary tramp around the place.

Finally he took Raffles away with him one afternoon to the brush-grown lot down the road. The manager of the Garden Department protested strongly that there was plenty of work to be done at home, but Mantell was in one of his streaks of bossing, and argument was useless.

They measured off in the lower part of the waste land an exact quarter acre and spent the rest of the afternoon chopping down the biggest of the scrub oaks and birches growing thereon. Some of these were large enough to trim up for stove wood, but the biggest part was just waste. Mantell soon discovered that they did not have the proper sort of tools to work with, and 'phoned in to the hardware store that night from the Squire's for a bush-hook and a brush scythe. The next day, much to Raffles' dismay, was also spent on the "crazy scheme," but it showed a good deal of progress, for the two men worked with unabated energy—Raffles because he wanted to be done with it and get back to his garden; Mantell because his imagination was fired and his blood stirred with that feeling of getting "something started," which always was like wine to him.

The good-humored Squire came down to sit on a rock and mop his broad, tanned brow and laughed at this latest wild undertaking. With coats, vests and outer shirts off, the two men toiled, dripping wet, in the hot sunshine.

"You boys certainly do love work," chaffed the Squire, feeling in his rear trousers' pocket for a dry handkerchief. "Why, I have some stout gentlemen, weighin' about 200 pounds apiece, up to the house that would just love to do that work for you, just—just for their board an' lodgin'; no washin'—ho! ho!—they wouldn't take no washin'!" boomed the Squire.

"What do you mean?" asked Mantell, pausing to wipe the sweat and dirt from his eyes.

"Mean?—why I mean my heavyweight porkers," said the Squire; "they'd root that place up till there wasn't a stump left."

At first Mantell though he was joking, but the Squire soon convinced him that he spoke in earnest, and the upshot of the argument was that he agreed to take six of the Squire's pigs to board and feed every day, the Squire to furnish a tight fence and

the grain required. These pigs were to be turned loose on a second quarter acre of the brush lot. Mantell was still stubborn about getting the first section cleared for this season.

The following day Raffles absolutely insisted on turning all hands into the onion-bed, which was now ready for the first hand weeding—and a tedious task it was. Robert begged so hard to stay home for this great event that he was allowed to do so.

By noon Mr. Mantell and Robert were both so lame they could hardly walk back to the house, but fully a quarter of the field was done. They went at it again after dinner, and were holding out bravely, but Raffles persuaded them to knock off and work on the "reclamation project," as the brush lot had come to be called, to get some of the stiffness out of their joints.

The following day they went at the onions again, and stuck to it all day long, with the result that that night saw the job finished—and their few friends who planted onions barely had them above ground yet.

Every hour that could be spared from the garden and greenhouse work was put into the work on the new field—not a very large one, but it was causing more talk than any other field in the neighborhood. The enterprises of the Mantell Company certainly added to the gaiety of the natives, if not to that of nations.

The days slid by rapidly enough, and the Squire's potatoes were in almost a week before Mantell—owing to the delays he had been put to in getting his field for corn and potatoes

plowed and ready—could even begin planting.

Mantell had done another thing to set the tongues awagging at the village store—right in the middle of the busiest season he had not only taken a day off himself, to travel the long journey that lay between Priestley Junction and the State Experiment Station, but he had taken his "hired man" with him. They invited the Squire, but he was too busy to take a whole day "away on a lark" just then, he said. That trip cost the company just \$7.39 from a sorely depleted treasury, but Mantell always felt afterward that it was one of the best investments he ever made. They not only gathered up many points of information that were of immediate use to them, but received a stimulation and a re-establishment of his faith in agriculture which gave a new impulse to the whole undertaking, and their work was already keyed up far beyond the average.

One of the results of his visit was that their potatoes were put

(Continued on page 59)



The waste land in the brush lot worried Mantell until he and Raffles had cleared it

H O U S E & G A R D E N S G A R D E N I N G G U I D E - 1 9 1 2

VEGETABLE	VARIETIES	DISTANCE		SEEDS OR PLANTS FOR 50 FT. ROW	DEPTH (IN.)	NO. DAYS TO MATURE	REMARKS
		APART IN ROWS	ROWS APART				
FIRST PLANTING—APRIL 1ST TO APRIL 15TH.							
ASPARAGUS P	Palmetto; Giant Argenteuil.....	1 ft.	3 ft.	50	4	1 yr.	Trench deeply, and put in well rotted manure, covered with three or four inches of soil, before planting. P.
BEEF	Crosby's Egyptian; Eclipse; Early Model.....	3-5 in.	12-15 in.	1 oz.	1	60-75	Sow extra thick, as they will not germinate as well as in warm weather.
BROCCOLI P	Early White French.....	1½ ft.	2 ft.	35		50-90	Set out when there is prospect of two or three days fairly mild weather, so that the young plants may get established; after that they will stand quite severe freezing. P.
CABBAGE P	Early Wakefield; Glory of Enkhuizen; Copenhagen Market.....	1½ ft.	2 ft.	35		60-90	See broccoli. P.
CARROT	Chantenay; Danvers Half-long.....	3-4 in.	12 in.	½ oz.	¼	60-80	Sow in as light dry soil as possible, being sure not to cover deep.
CELERY	Winter Queen; Boston Market.....	2-3 in.	12 in.	½ oz.	¼	125-150	In seedbed for transplanting later. Thin out before plants get tall.
ENDIVE	Giant Fringed.....	12 in.	12 in.	½ oz.	¼	75-100	See above. Better as a fall vegetable, but may be grown in early spring. Requires blanching.
KOHLRABI	White Vienna.....	6-8 in.	18 in.	¼ oz.	¼	65-85	Thin out as soon as possible and use while young and tender, not over two inches in diameter. P.
LETTUCE P	Mignonette; Grand Rapids; Wayhead.....	12 in.	12-18 in.	50	½	40-75	See broccoli. P.
LEEK	American Flag.....	3-4 in.	15 in.	½ oz.	½	120-150	Sow in seedbed and transplant for best results.
ONION	White Queen (earliest); Prizetaker; Danvers; Southport Red Globe; Southampton White Globe.....	2-3 in.	12-15 in.	½ oz.	¼	120-175	Sow as early as possible. Do not thin out until well along.
PARSLEY	Emerald.....	4-6 in.	3 ft.	1 pt.	1-2	90-110	Soak the seed in lukewarm water several hours before planting.
PEAS (Smooth)	Best Extra Early; Alaska; Clipper.....	2-4 in.	3 ft.	1 pt.	1-2	50-65	Use only a few of the earliest sorts. The early "wrinkled" peas, which are only a few days later, are much better in quality.
RADISH	Rapid Red; Crimson Globe.....	2-3 in.	1 ft.	½ oz.	¼	25-50	Sow little, sow often. They do well as a "catch crop" between rows of beets, lettuce, etc.
SPINACH	Victoria; New Zealand.....	8-12 in.	18 in.	½ oz.	1	60-75	"New Zealand" should be given more room than other sorts, and like Swiss chard, yields crop after crop from the same roots.
TURNIP	Early White Milan; Petrowski.....	4-6 in.	15 in.	½ oz.	¼	60-75	Sow very thinly as germination is usually strong, and plants grow rapidly.
SECOND PLANTING—APRIL 15TH TO MAY 1ST.							
BEEF P	Crosby's Egyptian; Early Model; Eclipse.....	4-6 in.	12-15 in.	100-150		40-60	Be careful not to let the roots get dry while setting out, and set them in firmly. P.
CABBAGE P	All-head; Early Summer; Succession.....	1½ ft.	2 ft.	35		70-100	Will require a little more room than the earliest sorts. P.
CAULIFLOWER P	Snowball; Best Early.....	1½ ft.	2 ft.	35		50-80	Not as hardy as cabbage. Wait until after hard frosts. P.
LETTUCE P	Mignonette; Grand Rapids; Wayhead.....	8-12 in.	12-15 in.	½ oz.	¼-½	60-100	Sow either in seedbed, or in rows to be thinned out.
ONION	Big Boston; New York; Gigantic.....	12 in.	12-15 in.	50		40-85	Give more room than for early varieties. P.
PARSNIP	Alska Craig; Prizetaker; Gigantic Gibraltar.....	4 in.	12-15 in.	150		100-150	Cut tops back a third to a half and roots two-thirds when setting out. P.
PEAS (Seedlings) P	Improved Hollow Crown.....	3-5 in.	15-18 in.	½ oz.	¼-1	100-150	Sow quite thinly. If the soil is shallow trench it deeply before planting.
POTATOES (Wrinkled)	Gradus; Early Morn; Thomas Laxton.....	2-4 ft.	3-4 ft.	1 pt.	2-3	60-75	If soil is wet and cold, an early start may be had by covering with sand or sandy soil.
POTATOES (Early)	Bovese; Irish Cobbler; Noroton Beauty.....	13 in.	28 in.	¼ pk.	3-4	60-90	Sprout four weeks in full sunlight before planting, and cut to good sized pieces with two eyes.
RADISH	Rapid Red; Crimson Globe.....	2-3 in.	1 ft.	½ oz.	¼	25-50	A good dressing of land plaster worked into the soil will add to quality and color.
SALSIFY	Mammoth Sandwich Island.....	2-4 in.	15-18 in.	¾ oz.	1	125-150	Treat as for parsnips.
SWISS CHARD	Lucullus.....	8-12 in.	15-18 in.	¾ oz.	1-2	50-60	Sow more thinly than beets. Do not cut too close when gathering.
THIRD PLANTING—MAY 1ST TO MAY 15TH.							
BEANS (Earliest)	Stringless Green Pod; Bountiful; Early Red Valentine	3-4 in.	18 in.	1 pt.	1-2	45-75	Plant in lightest, driest soil available.
BEANS (Wax)	Rustproof Golden Wax; Wardwell's Kidney Wax; White Wax.....	3-5 in.	18-24 in.	1 pt.	1-2	50-85	Plant about ten days later than above.
BET	Eclipse; Crimson Globe; Columbia.....	4-6 in.	12-15 in.	1 oz.	1-2	75-90	See that seeds are well firmed into soil, especially if latter is at all dry.
CARROT	Danvers Half-long; Coreless.....	2-4 in.	12-15 in.	1 oz.	1-2	60-90	Sow rather thinly to avoid too much thinning out.
CAULIFLOWER P	Dry Weather.....	2 ft.	2-3 ft.	25	½	100-140	Plant if possible where water can be given when heads are forming. P.
CORN	Golden Bantam; Peep o' Day; Extra Early Crosby.....	3 ft.	3-4 ft.	25	2	60-80	Plant if possible in sheltered position where late frosty winds may be kept off.
CUCUMBER	Davis Perfect; Vickery's Forcing; Fordhook Famous.....	4 ft.	4 ft.	¼ oz.	1	60-75	Raise hills slightly for extra drainage and if soil is too damp mix with sand. Thin out to three or four plants.
LETTUCE	New York; Deacon; Salamander; Iceberg.....	8-12 in.	12-15 in.	¼ oz.	½	70-90	If sown in permanent rows, give at least fifteen inches. Thin to about eight and re-
PEAS	Boston Unrivaled; Strategem.....	3-4 ft.	4 ft.	1 pt.	3-4	70-80	move alternate heads as they begin to mature.
POTATOES (Main crop)	Green Mountain; Vermont Gold Coin; Uncle Sam.....	13-15 in.	2½-3 ft.	½ pk.	4-5	75-100	Sow in "double rows" (about 8 inches apart) and put in brush before they begin to run.
PUMPKIN	Quaker Pie; Large Cheese.....	6-8 ft.	6-8 ft.	1 ft.	1	100-130	Bottom of furrow should be fine and loose. Do not let manure or fertilizer come
RADISH	Iceberg; Charters; Fordhook Bush; Delicata.....	2-3 in.	1 ft.	½ oz.	1	25-50	in contact with seed pieces.
SQUASH (Ear. sum.)	Scalloped Bush; Fordhook Bush; Delicata.....	3-6 ft.	4-6 ft.	½ oz.	½	60-75	If space is limited plant where they can run out over the grass.
TOMATO P	Chalks Early Jewel; Bonny Best; Early Earliana.....	3-4 ft.	4-5 ft.	15-20	½-1	40-60	See above.
FOURTH PLANTING—MAY 15TH TO JUNE 1ST.							
BEANS (Wax)	Rustproof Golden Wax; Wardwell's Kidney Wax; White Wax.....	3-4 in.	15-24 in.	1 pt.	1-2	55-80	Make several succession plantings: a very short row of beans will yield enough for a family.
BEANS (Pole)	Burger's Stringless Greenpod; Sunshin e Wax; Worcester Pole.....	4 ft.	4 ft.	¼ pt.	1-2	65-100	Put in supports when planting and thin out to three or four to a hill.
BEANS (Lima)	Early Improved; Henderson's Bush; Dree's Bush.....	4-6 in.	18-24 in.	1 pt.	1-2	60-90	Plant eye down, when there is prospect of several days of fair weather.
BEANS (Pole, Lima)	Early Leviathan; Giant Podded.....	4 ft.	4-5 ft.	¼ pt.	1-2	70-90	Thin to two or three plants. Give assistance in getting them to take hold of supports.
BET	Detroit Dark Red; Crimson Globe.....	4-6 in.	12-15 in.	1 oz.	2-3	75-90	Plant deeper than early sowing. Firm well.
BROCCOLI	Early White French.....	2-3 ft.	2-3 ft.	35	½	100-140	In seedbed for early fall crop. Cut back leaves when transplanting or plant in hills and thin to one plant.
BRUSSELS SPTS.	Dalketh Danish Prize.....	1½ ft.	2 ft.	35	½	100-140	Same as above.
CABBAGE (Late)	Perfection Drumhead Savoy; Danish Roundhead; Dan-	1½-2 ft.	2-3 ft.	35-25	½	120-180	Same as above.
CARROT	ish Round Red.....	2-4 in.	12-15 in.	½ oz.	½	60-90	Have seedbed very fine. Firm well.
CAULIFLOWER	Danvers; Coreless; Oxheart.....	2 ft.	2 ft.	25	½	100-140	See broccoli above.
CORN	Dry Weather; Large Late Algiers.....	4 ft.	4 ft.	½ pt.	2-5	80-100	Plant quite deep. Thin to three or four stalks to hill. Cultivate very often.
EGG PLANT P	White Evergreen; Country Gentleman; Seymour's Sweet	4 ft.	4 ft.	½ pt.	4	40-60	Set out only when warm, settled weather is assured. Make ground very rich. Give
	Orange; Black Mexican.....	4 ft.	2 ft.	½ pt.	2-5	70-90	water in dry weather.
LETTUCE	Black Beauty.....	8-12 in.	12-15 in.	¼ oz.	½	100-125	If hot dry weather, shade seedbed.
MELON (Musk)	New York; Deacon; Salamander; Iceberg.....	4-6 ft.	6-8 ft.	¼ oz.	¼-1	70-80	Make hill rich with old manure, and mix in wood ashes, and sand if soil is heavy.
MELON (Water)	Emerald Gem; Netted Gem; Henderson Bush; Mon-	3-4 ft.	2 ft.	¼ pt.	3-4	40-60	As for musk melon. Protect both from beetles when small.
PEAS	Cole's Early; Halbert Honey; Ice Cream.....	2 ft.	2 ft.	1 pt.	1	40-60	Same as egg plant.
PEPPER P	Gradus.....	3-4 ft.	2 ft.	25			Thin to two or three in a hill. Protect from bugs or the crop is lost.
SQUASH	Early Neapolitan; Ruby King; Chinese Giant.....	6-8 ft.	6-8 ft.	¼ oz.			Keep well trained up and all suckers off.
TOMATO	Hubbard; Delicata; Delicious; Blue Hubbard.....	3-4 ft.	4-5 ft.	15-20			

P = Plants started early under glass or in seedbed.

FLOWER	DISTANCE TO PLANT	HEIGHT	COLOR	IN BLOOM	REMARKS
ANNUALS					
AFRICAN DAISY	6-10	12-15	Rich, various, orange-gold.	June to frost	A new, very profuse flowering plant, good for beds and borders. Flowers are two-and-a-half inches across.
AGERATUM	6-12	12	Blue, white	June to frost	Popular old-fashioned plants for edging. P.
ASTER	12-24	18-30	Various	July	Give rich deep soil, and watch out for black aster beetle. P. C.
BACHELOR'S BUTTON	6-10	15-24	Blue, white, pink.	July	Old favorite for borders. S. C.
BALSAM	15-20	10-18	Various	June-Sept.	Should be kept in the foreground where individual flowers may be seen. P.
CALENDULA	12-18	18-24	Orange, yellow	June to frost	Very free flowering; good for either masses or borders.
CALLOPIS	8-10	12-18	Yellow (orange-brown)	June-Sept.	Of very quick growth, and free flowering. C.
CALIFORNIA POPPY	6-8	12	Orange, yellow	August	Sow early; beautiful in solid beds.
CANDYTUFT	4-12	6-18	White, crimson carmine.	June-Sept.	Good for solid masses of color, especially white. C.
CANTOR BEAN	24-36	59-90	Foliage	July to frost	Very rapid grower, useful for screening and tropical effects. S.
CHRYSANTHEMUM	12-18	12-36	Various	August-Sept.	Daisy-like flowers of bright colors. Foliage very pretty. C.
CLARKIA	8-10	18	White, rose, purple.	June-Sept.	Very easily grown and very showy.
COCKSCOMB (Celosia)	8-18	6-18	White, red, yellow, purple.	June to frost	Make very satisfactory borders, especially where long lines of color are desired.
CORNFLOWER	8-12	12-40	White, blue, lilac.	June-Aug.	New varieties of this old favorite show great improvement. One of the best blue flowers. C.
COSMOS	24	2-8 ft.	White, pink, red	August to frost	One of the most beautiful of annuals. Plants should be started under glass as it takes long to flower. P. C.
GLOBE AMARANTH	10-15	18	Pink	July	Also for borders and masses. C.
GOURDS	12-24	12-24	Red, white	July-Oct.	Good for masses. C. S.
GYPSOPHILA	6-15	5-15 ft.	Colored fruits	July to frost	Climbers. Fruits of various shapes and colors.
LARKSPUR ANNUAL	6-12	12-24	White, blue, pink.	June to Sept.	Valuable especially for mixed bouquets. Make three or four plantings. C.
LAVATERA	8-12	3-6 ft.	Rose	July	Rich colors. Another of the best blue flowers. C.
LOBELIA	10-15	6-18	Blue, white	June-Sept.	Another good screening plant.
LOVE-IN-A-MIST	4-8	3-5 ft.	White-blue	June-Sept.	One of the most beautiful and best plants for low borders and edges; also beautiful in mass. S.
LUPINE	10-12	12-24	Yellow to scarlet.	June-Sept.	Good for screens and masses. Will self-sow in good locations.
MARGOLD	6-18	10-36	White, blue, pink	June	New varieties give a beautiful range of colors. C. S.
MIGNONETTE	6-18	12-18	Pale gold to orange.	July to frost	Great variety of form; yellow shades. Dwarf sorts good for edgings. C. S.
MOONFLOWER	8-12	12-24	Golden, yellow to reddish yellow.	July-Sept.	Priced for its delicious fragrance; newer sorts are also very pretty. Make a second planting in August. C.
MORNING GLORY	4-12	15-30 ft.	White, blue	August to frost	One of the most beautiful annual climbers. Should be started under glass. P.
NASTURTIUM	8-12	10-30	Various	July-Sept.	The best flowering annual climbers for quickly covering fences, trellises and unsightly places.
NICOTIANA	8-12	12-6 ft.	White, red	July to frost	Wonderful improvements have recently been made in these old-time favorites, especially in the foliage. C. S.
PHLOX	6-8	3-5 ft.	Various	July to frost	Unique, pretty flowers, with a jessamine-like fragrance.
PHLOX DRUMMONDII	8-12	12-24	White to claret and mixed.	May to frost	Seed should be sown in January or preceding fall. Get young, small plants for best results. P. C.
PINKS (Dianthus)	5-8	10-18	White to rose.	July to frost	Wonderfully free-flowering and showy; very easily grown. S.
PORTULACA	4-6	6-10	White to scarlet.	August to frost	Quick growing, and very brilliant colors. Splendid for solid beds, or medium height bright edges.
SALpiglossis	6-12	12-24	White, yellow, red shades.	July to frost	One of the most free-flowering, beautiful and satisfactory of all summer annuals. C.
SALVIA	6-12	12-24	Scarlet	June-Sept.	Will not transplant well. Most effective in mass beds.
SCHIZANTHUS	8-12	12-24	Mixed—yellow to lilac.	August to frost	Brilliant, cheery, old-fashioned favorites, doing well in full sun and sandy soil.
SUNFLOWER	24-36	3-7 ft.	Yellow	July-Aug.	A flower that is just beginning to come into its own. Wonderful velvety texture and delicate pencillings. C.
SWEET ALYSSUM	4-8	8-10	White	August-Sept.	For mass effects or edgings at all red flowers. Dwarf sorts good for edgings. P.
SWEET PEA	4-10	2-6 ft.	White, yellow, orange.	May to frost	Beautifully formed flowers of delicate shades and very fragrant. C.
THUNDERBOLT (Black-eyed Susan)	6-12	3-8 ft.	Blue, white	June-Sept.	Very rapid growing, and especially useful for screening fences, etc.
VERBENA	12-18	8-15	Blue, white	July-Sept.	Still the most popular of edging plants. S.
ZINNIA	8-12	12-24	Various colors, brilliant.	July to frost	Good for low trellises and vases.
BIENNIALS					
CAMPANULA (Bellflowers)	8-12	18-36	White, blue, pink.	June-Aug.	Old favorites but still popular for both beds and borders.
FORGET-ME-NOT (Myosotis)	6	6-12	Blue, white	April to July	The best blue edging plant and one of the most dainty of all flowers. S.
FOLYBLOCK	10	12-36	Pink, yellow	June	Very easily grown; old favorites for the border.
HOLLYHOCK	12-18	3-7 ft.	White, yellow, scarlet, rose	Aug.-Sept.	Especially valuable against high walls. Gorgeous colors and large flowers.
SWEET WILLIAM	6-12	12-18	White, pink, red	July-Sept.	Still one of the very best border plants, having flower heads of great size, brilliancy and beauty. C.
WALL FLOWER	6	12-30	Brown, yellow	July-Sept.	Very fragrant flowers of many shades. Early sorts may be treated as annuals. C.
PERENNIALS					
ALYSSUM (Saxatile)	6-12	12	Golden yellow	May-June	Especially useful around rock-work, bases, etc. Stands a good deal of abuse.
ADONIS	10	12-36	Various	June-July	Greatly improved, both in form and color. Very graceful. C.
ANEMONE	6	12	White to Rose	May-June	Good early flower for border.
BELLS	4-6	12-36	White, pink, red	August to frost	Should have a place in every garden; extremely beautiful and come when most flowers have gone. C.
BLEEDING-HEART	12-18	24-30	Purple, pink, white	April-July	These low-growing, beautiful little daisies are extremely attractive. Very free bloomer.
CANDYTUFT (Iberis)	6	9	White	May-June	Peculiar, pretty heart-shaped flowers borne in long graceful sprays. S. C.
CHRYSANTHEMUM	12-18	24-40	Various	May-June	A hardy form of the annual above, sometimes called <i>Iberis Gibraltarica</i> .
COREOPSIS	12-15	24-36	Golden yellow	August to frost	If started early these will flower first year from seed. C.
DAHLIA	24-36	2-4 ft.	Various	June to frost	Beautiful free-flowering plants for the hardy border. C.
GALLARDA	10-12	18-24	Yellow, white, red	July to frost	Early grown; likes very rich, heavy soil. Wonderful improvements within the last few years. C.
HELLOPSIS	8-15	3-4 ft.	Yellow, crimson	July-Aug.	Midsummer flowers, good for the border.
HELIANTHUS	12-18	2-10 ft.	Yellow	July to frost	Easily grown; likes very rich, heavy soil.
IRIS	12-18	18-30	Various	July-Sept.	If sown early will bloom first year. C.
LARKSPUR	10-15	3-4 ft.	Blue-white	August to frost	The improved types are truly gorgeous, and the singles good for cutting. C.
MONKSHOOD	12-18	12-36	Various	May-July	Very easily grown; some of the delicate shades are almost as beautiful as orchids. C.
PEONY	24	24-36	Red, pink, white	July-Aug.	Popular old favorites for the border. One of the best blue flowers.
PHLOX (Hardy)	12-18	12-36	Various	July-Sept.	Good for borders, but poisonous.
PINK	6-10	8-12	White, yellow, orange.	May-June	Perhaps the most showy of all border plants. P.
POPPY (Iceland)	6	12-18	White, yellow, orange.	August to frost	One of the most permanent and satisfactory of all late blooming border plants. P. C.
POPPY (Oriental)	4-5	24-36	Crimson shades	May-Sept.	Sow in open in May or June. Beautiful colors and one of the best flowers for cutting. C.
PRIMROSE	8-12	4-6	Yellow	June-Aug.	Enormous, brilliant flowers, borne three feet above the ground. Of vigorous growth.
PYRETHRUM	12-18	12-24	Various	August to frost	Pretty, early blooming flowers for border or edging.
RUDBECKIA (Golden Glow)	8-12	4-7 ft.	Yellow	August-Sept.	Good for screening and mass effects.
SCABIOSA	8-12	15-30	White to rose, maroon, blue.	June-Aug.	Fine, light-blue flowers for cutting, blooming very freely. C.
SILENE	5-6	4-5	White to rose.	June-Aug.	Pretty, low-growing little plant, good for masses or broad edgings.
SNAPDRAGON	8-12	24	Purple	July-Sept.	One of the finest of all flowers for cutting. Will bloom first year from seed. Hardy, with protection. P. C.
VERONICA	8	24-30	Purple	August	Good for edging.
ANNUALS—While most of these can be sown in the open ground in May or early June to flower the same year, quicker results will be had if they are started early in flats, in the hothed or under glass, and transplanted. With some (marked P. above) it is quite necessary to do this. With an- nuals it is important to sow the seeds of the flowers out of before ripening seed if a long season of bloom is wanted.					
BIENNIALS—These should also be sown every year, that flowers for the year following may be provided. They may be started in May or June and transplanted later to their permanent places. Foxglove and other short-lived perennials, are best treated in the same way.					
NOTE—O. Flowers especially good for cutting. S. Flowers thriving in partial shade. P. Flowers that should be started early under glass, or purchased from the florist.					
PERENNIALS—Many of these, if sown early under glass, will flower the first year;—some, even from seed sown in the open. They should be grown to fair size in the seed-bed and then transplanted to permanent quarters. The border of hardy perennials should be one of the most beautiful spots in the garden.					

System in the Vegetable and Flower Garden



IT is only natural that with the recurrent springtide we should make resolutions to have a more productive vegetable garden, a more beautiful flower garden, than ever before. The resolutions come easily enough—as easily as the flowers that bloom in the spring—and have just about as much to do with the case. It is not so much knowing more about what to do, as getting more done, that will make this year's gardening an improvement over last year's.

In other words, it is only by getting the garden work so systematized that a little time will show a big result, that we can go ahead of previous years' records. Many persons have but a few hours during the week—possibly only Saturday afternoons—that can be devoted to work of this sort. It is just such time-pressed gardeners that the information contained in this article is arranged to assist.

Then, let us analyze the problem—taking it for granted that you are a busy person with no time to waste over technicalities.

In the first place, plants must be given the proper conditions under which to grow. If plants are to grow their best or bloom their prettiest, they must have plenty of plant food. Further, they must have it supplied in such a way that they can take it up and use it. In order that they may use it, it must be in what the soil doctors call “available” forms, and there must also be a certain amount of moisture along with it, because plants take all their nourishment in the form of soups, and very weak soups at that. It takes, on an average, 400 pounds of water to furnish the plant food for the building of one pound of dry plant matter.

Not to go farther into plant physiology, experience demonstrates that a finely pulverized, deeply worked soil produces the best growth, and is the most retentive of moisture.

The garden, or the flower beds, should be spaded up and overturned to the bottom—that is, down to the subsoil, readily distinguished by its color and texture which are different from those of the long worked loam at the surface. This will usually be, in old soil, two spade depths deep. If not, a little subsoil should be turned up each year, thus gradually deepening the loam. In vegetable gardens of any size, it will be both cheaper and better to have the ground plowed rather than spaded.

The flower borders, which are—or should be—pretty well filled up with hardy perennials, of course cannot be worked so deeply, on account of the masses of roots. This does not mean

that the usual surface scratching—much less thorough than an active family hen would furnish—is all that can be done for them. Firmly

established plants will not be at all injured by quite severe pruning of the surface roots, and the deeper and finer the soil can be worked, the better will the border stand the long continued siege of a dry summer.

A few dollars invested in a load or two of finely broken up, thoroughly rotted manure will give you more vegetable and flower garden success than can be obtained from all the wonderful novelties and new varieties catalogued if you attempt to get along without suitably prepared soil. When I began gardening I thought the variety was everything. Well, it is not. It is only one of the fine points of the game. The big things are to get your soil in proper shape, and then to keep it thoroughly cultivated.

Work into your garden and flower beds all the manure you can obtain. Get it down below the surface, thoroughly mixed with the soil where the roots can find it in midsummer when the surface inch or two of soil is nothing but fine dry dust.

Even the borders should have their share of the manure pile, worked into the surface with a fork early in the spring. To be sure, the perennials will live and grow without it, but what small and scattered flowers one usually sees!

Do not judge from all this that I have no use for fertilizers. They have their function, and a very important one, as a supplement to the manure pile. They sometimes have to be used in place of it, but get the manure if you can. If used without manure, 200 to 225 lbs. on a garden 50 x 100 feet will not be too much. If manure is used, 100 lbs. will be ample. All fertilizers should be put on after the ground is plowed or spaded, and raked or harrowed in.

When the initial operations of turning over and enriching the soil have been carried out as thoroughly as possible, but not before, attention should be turned to sowing and planting. It is a good plan so to arrange the garden that only the portion of it required for immediate use need be finished off at one time. If the piece is plowed it is only practical, of course, to do it all at one time. Then harrow it all down in good shape, but rake over only enough of it to make room for the first instalment of seeds and plants. When ready for the second planting, rake off a second strip, etc.

BY F. F. ROCKWELL

Photographs by N. R. Graves

This final raking off should leave the surface of the seed bed as fine and level as possible. The importance of doing this thoroughly is very great, for without such a finely prepared seed bed many seeds will come up poorly and unevenly, if at all. The thing to look out for in planting is to get the plants in firmly enough.

The Vegetable Garden Guide, on pages 32 and 33, is arranged for the busy man or woman. As soon as your ground is ready—and ready it should be made just as soon as the ground is dry enough to work in the spring—go ahead with your planting.

The dates suggested are for average regions in the latitude of New York. If you live farther north, or if the spring is usually late, you will have to delay the beginning of operations correspondingly. If, on the other hand, you can get a start before April first, so much the better.

While the vegetables are to be planted or sown in the groups suggested in the table, so that if desired the work can be carried on in a few hours' work one day every week or two, the simplest way of considering their culture is to take together the sorts that need similar treatment.

These groups are three: the root crops, such as beets and carrots; the leaf crops, such as cabbage and lettuce; the fruit crops, such as melons and tomatoes.

THE ROOT CROPS: Beet, leek, potatoes, carrot, onion, salsify, kohlrabi, parsnip, radish, turnip. All these, with the exception of potatoes, should be sown very early in shallow drills. As the radishes mature very quickly, the best way to handle these is to sow a row or two every week in the seed bed, or some handy corner near the house. The quality is best only for a short time after they are large enough to eat.

The soil for all root crops should be rich and finely worked, in order that the edible portions may develop quickly and be smooth and even—in poor or half prepared soil they are likely to be stringy or misshapen.

Extra early potatoes may be had by starting the cut pieces in flats of medium coarse sand, during March. When setting out, if the sprouts are short they can be covered over without harm. Simply sprouting the seed in full sunlight, before cutting, will give them an early start.

All root crops should be thinned out to the proper distances as soon as well started, the work done preferably on a cloudy day or late afternoon.

THE LEAF CROPS: With the leaf crops are considered those of which the stalk or the flower heads form the edible portion, such as celery and cauliflower. This group includes asparagus, cauliflower, kale, rhubarb, Brussels sprouts, broccoli, celery, lettuce, spinach, cabbage, endive, parsley.

All of these plants like a deep strong soil, and their quality depends very largely upon growing them rapidly, with no check

at any stage of development. They are all great nitrogen consumers, and therefore should be manured liberally. If the ground in which they are planted is not already very rich, apply manure in the hill—a forkful of barnyard manure, or a handful of cottonseed meal and bone meal mixed. Chicken manure is also good, but must be thoroughly mixed with the soil or it will burn the plants.

For early use, most of these crops are started under glass and later transplanted into final position. As soon as established after planting, a light dressing of nitrate of soda will help them greatly. It should be sprinkled on very thinly, care being taken that none of it lodges upon the leaves, and worked into the soil.

Cabbage, cauliflower, etc., are often hilled up in cultivating, but on most soils this is work wasted. They should not be grown where similar crops, or turnips, have been grown just before, and all are benefited by an application of lime to the soil—as long before planting as possible.

Celery can be grown perfectly well in any home garden where it is possible to give water during very dry weather. When setting out the plants be

sure not to set them so deeply that dirt gets into the heart of the stalks. Give frequent level cultivation until the middle of August, and then the earth must be drawn up about the stalks to blanch them; or boards or tiles may be used for the same purpose. Never work in the celery while it is wet.

THE FRUIT CROPS: These are the vegetables of which the seeds, or the seed-containing fruits, form the edible portion, as beans, dwarf, pole and lima; corn, cucumber, eggplant, melons, okra, peas, peppers, pump-

kins, squash, tomatoes, and other equally well-known species.

All of these plants, with the exception of peas, differ from most of those in the other groups in their affinity for warm weather, and while earliness cannot be overurged in regard to the former, nothing at all can be gained by attempting to sow or set out these plants until all danger of frost is over and the ground thoroughly warmed up.

Another thing in which they differ is that the soil should not be made too rich, especially with manure or fertilizers high in nitrogen, such as fresh barnyard manure. Under such conditions there is sometimes a tendency to make too much vine and foliage to the detriment of the fruits.

If there is any variation in the garden soil, use the heaviest of it for the leaf crops, the lightest and sandiest for the fruit crops—with the exception of late peas. The fruit plants require more room than the others for development, and are planted for the most part in hills rather than in drills or continuous rows. For best results these hills should be especially prepared by digging out the soil to a depth of eight to ten inches and a foot and a half square, and working into the bottom soil a good forkful or two of well-rotted, old manure. Half a quart of cot-



One should be on the lookout for garden pests just as soon as the plants come up; it saves disappointment later

tonseed meal mixed in at the same time will prove a valuable addition. For the earliest plantings the hills should be raised an inch or so above the surface, to insure thorough drainage. The earliest results are, of course, to be had, however, by starting the plants under glass; and setting out after all danger of frosts is past.

With all the vine fruits—melons, squashes, etc.—and also egg-plants, the insect pests are a serious consideration. Among these enemies the striped beetle, squash bug, squash borer and flea beetle are the worst. Remedies are more numerous than effective, but for the home garden, where only a few hills will be required, an easy and sure way of fighting them all is to provide bottomless boxes, large enough to cover the hills, and covered with mosquito netting or light protecting cloth. In this way the vines will be kept immune until they begin to run, and if they are lost after that, it will be because you neglect to keep a watchful eye on them.

The smallest of places affords opportunity for a satisfactory flower garden, and the flower garden is not nearly so expensive a luxury as generally supposed. In fact, to the home that has once planned and cared for one, it is no longer a luxury, but becomes a necessity.

Almost all of the annuals and perennials described in the accompanying table can be bought in five or ten cent packets, and are easily grown; even those which are better started under glass need cause little trouble, as six or eight different kinds may be started in a single box, say 13 x 18 inches. This should be about two inches deep, with an inch or so of rough material in the bottom to insure perfect drainage. Cover this to within half an inch of the top with fine sifted soil, made light by mixing with it sifted chip-dirt or leaf mold, and sand. Give a thorough water-

ing the day before sowing, mark off with a match or pencil-point rows about two inches across, sow the seed evenly, one row of each sort, and just barely cover the seed from sight. Keep the box covered with a pane of glass until the seeds sprout, to retain the moisture, and put it in a warm place. If it should get dry before the seeds come up, let the soil soak up water from the bottom by placing it in the sink or bathtub and putting in enough water to come half way up the sides of the box; or water with a fine spray through a cloth to prevent washing up the seeds. The soaking process is, however, very much better.

For sowing seed in the open, make up a seed bed in a sunny sheltered position. It should be three or four feet wide, as many feet long as necessary, and elevated several inches above the level of the soil. Unless the soil where you make this bed is very light and fine, it will be well to sift and mix up enough to cover the surface of the bed two inches deep. In case you have some old windows lying about, place a narrow board on edge along each side of the bed, the right distance apart, and thus improvise a coldframe which will enable you to begin operations a couple of weeks sooner than otherwise.

Mark off the rows three or four inches apart, and sow and cover as when using flats, having given the bed a good wetting down the day previous. If the seeds seem to come up too thickly, do not hesitate to thin out as soon as needed; a dozen good plants will give more satisfaction than a hundred poor straggling ones.

When they are large enough to transplant, try to select a cloudy day, and give the seed bed a thorough watering several hours before taking the plants up.

The most effective way of using a limited number of plants is
(Continued on page 55)

The Value of Ivy

SOME OF THE POINTS OF FAVOR THAT THE ENGLISH IVY HOLDS BEYOND
OTHER VINES—THE FALLACY OF ITS INJURING WALL SURFACES

BY HAROLD DONALDSON EBERLEIN

Photographs by N. R. Graves and others

PAGAN and Christian, both alike, have ever revered the ivy. In ancient Bacchic revel, at Yuletide in the church, entwined with bay and holly, it matters not, its grasp upon men's fond attachment is the same. Whether we be pagan enough to attribute personality to plants and flowers, pagan enough to cherish all the legendary conceits and symbolism belonging to them, or whether we be so superior and enlightened, as we fondly flatter ourselves, that we value them merely for their native grace, we cannot escape from the firm and steadfast claim the ivy makes on our regard. It winds its tendrils round our hearts and subdues us, all unconscious of its working, to its spell, that potent spell that all plants, each in its particular way, cast upon us.

English ivy is a term of various interpretations, it might be said, a term much abused. A great deal of the English ivy is Irish and the Irish ivy is all African. Then there is the Asiatic ivy and it not infrequently is called English. Thus it will



The leaves of the English ivy are generally three to five-lobed

be seen that "English" ivy means ordinarily "just plain" ivy. In some books about fifty species of ivy altogether are catalogued, but as a matter of fact the classification may be reduced to two, or at the most, three. There is first, in this condensed grouping, the European or English ivy (*Hedera helix*), a plant embracing a great number of sub-varieties of widely divergent forms and colors of leafage. Its tendency, however, is always toward a three to five-lobed leaf form when climbing and a regular ovate form when flowering or fruiting. Next there is a closely allied form, the Irish ivy, really African ivy (*Hedera Canariensis*). This is the common large-leaved climbing sort. It also has some variation in leafage, but not as much as *Hedera helix*, from which its leaves differ in being larger, of a rich deep green color and a persistent tendency to the five-lobed form. Asiatic ivy (*Hedera Colchica*) displays some further variations, but as we are not so much concerned with it there is no need to enter here into its discussion.

It should be borne in mind that the flowering and fruiting branches of the ivy exhibit a character and leaf form different from the rest of the plants. While the ivy is climbing or creeping its leaves are more or less lobed and it produces plentiful clasps or modified roots, by means of which it attaches itself tightly to the surface of the wall. When the vine has reached a certain development bushy, spur-like branches that droop over are produced. The leaves become modified in form, growing narrower and less lobed. In due season clusters of small yellow-greenish flowers form at the ends of the branches, followed later by black berries.

Ivy may be cultivated as a bush or tree, for which purpose it is usual to select the fruiting, branch-like growth. This method of training ivy might advantageously be practised much more than it is, especially with some of the variegated forms of *Hedera helix*. Some of the variegated ivies are white, yellowish-green or a deep orange-yellow. In planting English ivy, and that means any of the kinds that bear the name of English ivy in the mouths of an indiscriminating public, it is well to remember that young ivy plants, like other young and tender things, need a little thoughtful consideration from time to time until they get a good start in life when they may be left to look after themselves. A rich soil is by no means necessary, although the plant will not disdain the nutriment that may be present in the garden earth. The ivy does need moisture, however, and when young should not be allowed to go thirsty or be exposed to the heat of the sun. The north and east sides of buildings are ordinarily chosen for English ivy, but if sufficiently shielded in its early stages of growth it will do well also on the west and south.

And now we come to the consideration of ivy from the architectural point of view. To begin with, we should rid ourselves of the foolish prejudice that exists in some quarters against having ivy growing over the walls of a house. There is no damage to be feared so long as the shoots do not penetrate the wall by any cracks or apertures made by displaced stones or bricks. If the walls are sound the ivy covering is distinctly beneficial, for it promotes dryness and warmth and minimizes the corrosive action of the atmosphere. The chief objection urged against planting English ivy is that it takes too long to grow. We Americans are too impatient; we want everything in a hurry and we are nearly always unwilling to wait long enough to allow things to attain perfection. Consequently we plant am-



The greatest value of the ivy is in its rich green color when other leaves have fallen

pelopsis or Virginia creeper or something that will spring up with the same alacrity as Jack's marvelous beanstalk. Ampelopsis and Virginia creeper both have their proper places and their several excellences, but there are walls where no amount of gorgeous flaming color in the fall or tender green in early spring can make up for the satisfaction of having the solid, friendly leaf to cheer us through the bleak days of winter. With English ivy we have a restful, satisfying mass of sturdy green instead of a tangled gray mat of dead twigs covering our walls in the dreary months when we crave a bit of vivid color out-of-doors. The dull subdued gray light that we have so much of during December, January and February in our latitude is just the medium to act as a foil for color, and realizing this wise gardeners are coming more and more to plant barberry and other berry-bearing or evergreen shrubs for winter coloring. For this same object nothing is more valuable than a good wall of ivy in the background. Even without the introduction of any other hues its wholesome green against the snow gives a contrast that is always pleasant and lessens any appearance of bleakness that might exist.

No plant more than ivy will soften and modify the outline of a building large or small. A good building it will grace and an unsightly one it will redeem, as far as redemption may be possible. It not only affords a smooth unbroken mantle of green for the surface of a wall, but also covers up sharp, uncompromisingly hard edges by its branching, bushy growth, a habit of growth that other vines have not to the same extent. By this very characteristic it tones down angles and helps to blend the building to which it clings with the surrounding face of nature. Because ivy covers the walls of a house there is no reason that it should have an unkempt appearance. On an old Breton château I once noted how carefully the vines had been trimmed away from a panel of carved adornment over the door. In this wise the ivy growth had been made to throw an architectural feature into greater relief than would have been possible in any other manner. Instead of obscuring the features of a building, by judicious training a vine may be made to set them off to better advantage than if the face of the walls were kept vine-free.

The decorative possibilities of ivy are almost unlimited, and a little consideration on the part of the house owner will surely suggest some way in which these vines can be used.



The nearly round leaves above are borne on the fruiting or flowering branches

The Perennial Garden From Seed

THE STARS OF THE HARDY GARDEN—HOW
YOU CAN GROW THEM ALL FROM SEED AND
JUST WHEN TO PLANT TO GET RESULTS

BY ELIZABETH HERRICK

Photographs by N. R. Graves, Chas. Jones and others



Phlox should be the last plant omitted from the hardy garden

EVERY new householder, contemplating his bare grounds, feels the necessity of exterior decoration to counterbalance the greater or less elaborateness within; but not every new householder, when the cost of the house is settled, finds his pocketbook deep enough to begin at once the permanent planting that goes so far toward making the home grounds an artistic picture to the passerby and a source of perennial pleasure to the owner and to his family. Either one falls back on annuals, or he buys a few shrubs of the soft Holland stock, almost sure to winter-kill in our more rigorous climate, and tries to persuade himself that the outdoor decoration is complete without any further additions.

It has long seemed strange to me that, with the hardy, herbaceous garden and its wonderful succession of bloom practically within the reach of all, so many should solve their outdoor problem inadequately or should live garden-less until they feel themselves financially able to call in the landscape architect and the nurseryman.

Five or six dollars judiciously expended for seeds, an equal amount for fertilizer, five dollars for a coldframe, and two and a half for a day's labor, if one is averse to the task of spading the border, are all-sufficient, so far as expense goes, for the creation of a garden picture as perfect within its outlines as any whose scale of measurement is by the acre rather than the foot. As to the actual planning and planting, no border is so successful as that with a personal record. To be really a part of the home and to express the home-life and tastes of the owner is as much the end of the garden as to be decorative. Such a border is not that which springs by the magic of the nurseryman's day into mature life, but a growth, repre-

senting, it may be, the work and the pleasure of years. If the home-gardener, in his first essay, sin against the color-combinations dear just now to the heart of the expert, he is more than likely, if the fault is glaring, to recognize and amend it himself. One of the prettiest small gardens I have ever seen—the work of the owner—is one in which a chance planting of pink and rose pyrethrums in close proximity to a mass of scarlet oriental poppies gave place the next season to the feathery plumes of white spiraeas, a color contrast in entire and orthodox harmony. The same gardener began with a border constructed on straight lines; now his border sweeps out into the lawn in flowery promontories and recedes from it in little bays, in the curve of which blue flowers are at their best, deepening the hint of distance. He has planted mallows, foxgloves by the hundred, blue monkshood and hardy asters under a group of trees, bringing to his own yard a delightful bit of woodland. Experience has taught him, as it will teach others, that the strong-growing, shrubby plants, hibiscus, spiraeas, bocconias and boltonias, buddleias and Desmodiums afford an excellent background; that the dwarf bluebells, the heucheras



Delphinium formosum looks well with chrysanthemums

(coral bells), sedums, grass pinks and English daisies border the lawn charmingly; that the snowy white of the great Japan irises and the brilliant crimson-scarlet of the old bee balm (*Monarda didyma splendens*) are at their clearest against a background of deep blue hybrid delphiniums; that blue, as a peacemaker among warring colors, is almost as good as white; that pinks and pale yellows associate more harmoniously than the permissible orange and scarlet, and that the well-arranged border may be as cheerful in April and October as it is in June or July. The householder who creates his own



The hardy border is seldom achieved in a year and is just as successful when grown from seed



Campanula persicifolia is one of the best of its family



Gaillardias have splendid bloom in late summer or autumn



Of the pentstemons try the scarlet *Barbatula Torreyi*



Bocconia cordata, the plume poppy, is for background effects



Pyramidalis is the tallest form of campanula, and very desirable

home-environment insensibly educates himself into a color critic of the highest order. He understands and appreciates the wonderful combinations of nature; he knows exactly wherein X's garden is a success and Y's, laid out by a landscapist of equal note, is a failure; the one artist had grasped the key, or, better, struck the note of his patron's home, the other had imitated his own past triumphs on larger estates and failed totally to interpret Y's.

There are, therefore, other reasons beside the consideration of cost which should induce the new householder to plan and plant his own grounds. I do not say his work will be better done than the work of the professional, but that it may be as well done, and that the doing it will be of immense profit to him both physically and mentally. And the actual labor involved is greater in anticipation than in execution, for the time of waiting for the seedlings to mature and the border to "find itself" is more tedious to the imagination than it is in experience. The average householder will find that little plants grow more quickly than he expected.

It is not, perhaps, generally known that many perennial plants bloom from seed the first season. This is the case if the same seed be sown indoors in shallow boxes or in a hotbed in December or January, and most others from seed sown outdoors in August or early September of the preceding year. The latter plants will, of course, be larger and the blooms better. But the householder who has neglected sowing until March or April, need not despair of bloom. I had in September plants of *salvia farinacea* (a very pretty, blue-flowered perennial) two feet high and in full bloom

from seed sown in a coldframe as late as May. Delphiniums, too, grew from seed sown in the open ground as soon as it was in a dry and workable condition, flowered during their first summer, and the majority of gardeners, amateur and professional, will agree that no hardy plants produce lovelier garden effects than the improved hybrids of this perennial. Seeds of the named English hybrids may now be obtained from American seedsmen for the trifling cost of fifteen cents per retail packet. Among the most beautiful of the named sorts are Lizzie, azure-blue with creamy yellow eye; Duke of Connaught, a hybrid of splendid form, and of a brilliant, almost gentian blue in shade; Rembrandt, sky-blue and lavender, with silver sheen, and the King of Delphiniums, a very vigorous grower, with immense dark blue flowers on tall strong spikes. This last variety sports considerably, but as its hybrids are more beautiful, even, than the parent variety, I consider its sportive character rather a recommendation than a defect. Of all the larkspurs, however, none is more beautiful to me than the improved *formosum*—a variety long known and, in my opinion, never excelled. In my garden, individual blooms of the *formosum*, grown from seed procured in Germany, have measured over two and one-half inches in breadth, rivaling the largest of the English hybrids. The color of the *formosum* is, I think, the finest and most brilliant blue in the floral family; the texture of the flowers is of unusual firmness, and the brilliant petals are overlaid with a glistening silver sheen like a light frost. A large white eye—more properly, white eyes—edged with blue and long wrinkled spurs, reminding one of purplish-blue

(Continued on page 55)



The white columbine, *nivea grandiflora*, grows quickly



Don't miss the beauty of the pyrethrum daisies in your garden



Heuchera's red flowers last from spring until the fall



Most forms of dianthus are suitable; the one shown here is *Hedderigi*



Perhaps you know crimson-eye hibiscus as marsh-mallow

Remaking a Small Lawn

HOW GOOD RESULTS MAY BE OBTAINED—THE CHOICE OF SEED AND THE PROPER WAY TO TEST IT—THE VALUE OF MANURE IN LAWN MAKING

BY L. J. DOOGUE

DURING the fall everyone with a piece of grass imagines that the salvation of that bit of green is dependent on the amount of manure that he puts on it. If you should tell him that the manure that he puts on his grass is a detriment instead of a help he will wither you with a look of scorn. Everybody does it, so it must be right.

Manure is an essential in making a good soil upon which to grow grass, but there is always a chance of getting too much of a good thing, particularly when applied in the form of top dressing in the fall. This sounds like heresy, but it is a fact nevertheless. Haven't the best lawns been produced by manure top dressings? No, they haven't, but they have been made possible by liberal mixtures of manure in the soil and afterwards being treated with commercial fertilizers as dressings. Have you ever looked at some of these supposedly beautiful lawns that have had their quota of manure regularly? I mean, have you walked upon them and examined the texture of the grasses that composed them? If you have made such an examination you were doubtless surprised to find that instead of a fine crop of grass the charming appearance that so entranced when viewed from a distance was a bad mixture of weeds and grass, with the weeds predominating. If you don't believe this make a close inspection of some of the noted lawns you know and be convinced of the truth of this statement.

If the soil is in good condition—that is, if it has depth and received a proper preparation as to enriching and subsoiling when made—it will be unnecessary to apply anything to keep it in condition for many years.

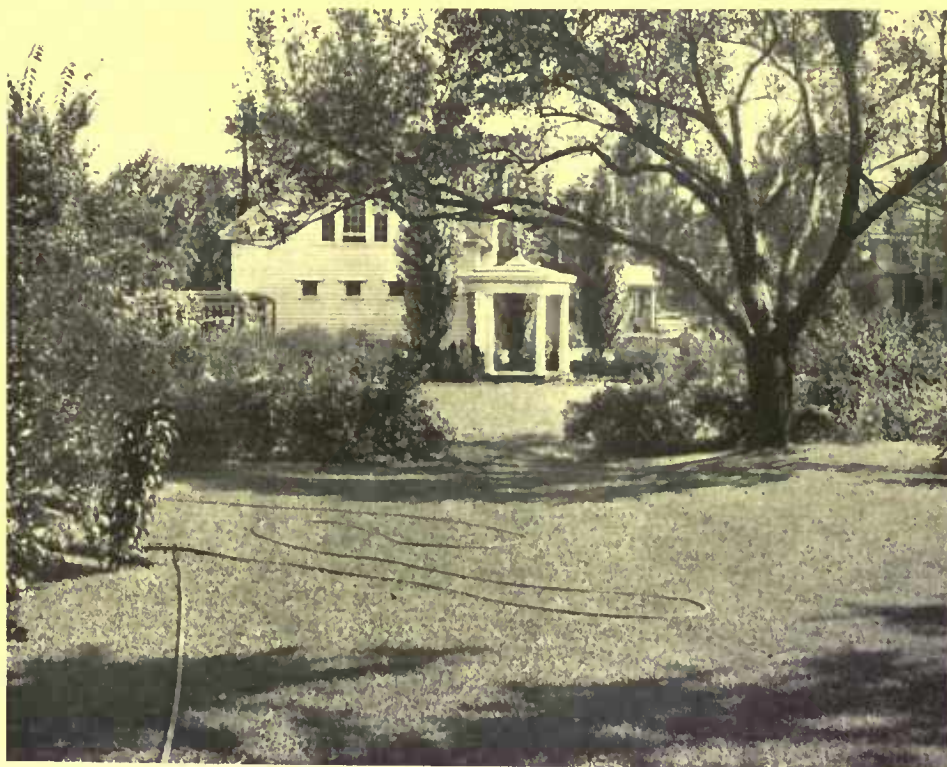
If anything, use spring top dressings and with their aid satisfactory results can be brought about. In the case of a small lawn and a person insisting on using manure I should say give a liquid dressing in the spring instead of the fall. Steep manure in a barrel and apply with a watering pot. Sheep manure has the advantage of being less weedy than horse or cow manure. Years ago it was possible to get sheep manure in a pure state without also buying a little of everything ground up in it. The really most efficient lawn dressing is Canada hard wood ashes spread over the lawn in the spring. This should be bought under an agreement as to the percentage of potash in it, otherwise you are apt to get anything from three to one-half of

one per cent., and more likely the latter than the former. Ashes such as these are not worth using. They should run from seven to eight per cent. to get the results you are looking for. Spread them on the ground until it has a decidedly gray appearance, and even should you put it on heavier no lasting damage will result. Apply it to the grass when rain is expected. Put on dry grass it will burn it badly. Bone meal, 500 pounds to the acre, is excellent. Nitrate of soda spread broadcast about 100 pounds to the acre and repeated two or three times will enliven things materially and be more beneficial than if a large amount was put on at one time.

When a lawn has run out no amount of top dressing will bring it back to its first condition, but very much may be done for it to keep it looking well for years to come.

Where it is not desired to run a plough through the ground take a fork and loosen up the top, put in a dressing of bone meal and ashes, roll it down heavily and in a month or so put in the grass seed. Doing it this way loosens up the ground sufficiently to let the good of the fertilizers work into the soil. Besides this general top dressing, dig out at intervals places about a foot

square, and just as deep, and into them pack well-rotted manure, covering it with sod on top. This sort of combination treatment, with frequent waterings and rolling will do much to rejuvenate the soil without resorting to a wholesale digging up. This may seem like a contradiction to what I said about using manure, but it is not, for the conditions are not the same. Here the manure is put into the earth where, as it is supposed to be well rotted, it could do but little injury as far as weeds were concerned. This treatment is particularly effective in small patches such as are found about city homes and which are



One essential to the success of a lawn is plentiful watering. A mere sprinkling is insufficient, especially during dry weather

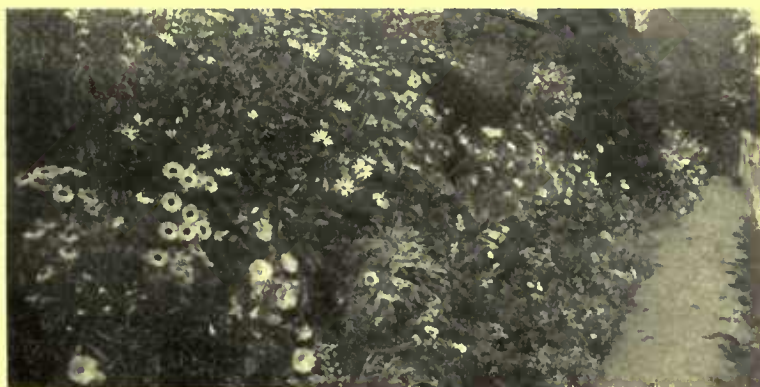
usually covered every winter with manure. A follow-up treatment—that is, doing a little of this each year—will in time find the soil in as good condition as if it had been entirely remade. A remade patch of grass can be kept in thriving condition for very many years by an occasional spring dressing and plenty of water and rolling.

Good grass seed is essential to the making of successful lawns, so before buying any look into the matter carefully and do not

(Continued on page 53)



English gardens often demonstrate how much can be done within a limited area. A large proportion of this little yard is turf, but it has been rendered attractive by mass effects around it



Narrow borders are made strikingly pleasing by filling them with masses of luxuriant plants



The entrance from the garden is almost converted into an outdoor living room

ENGLISH DOORYARD GARDENS



Climbing plants as well as those used for edging are effectively massed near the house



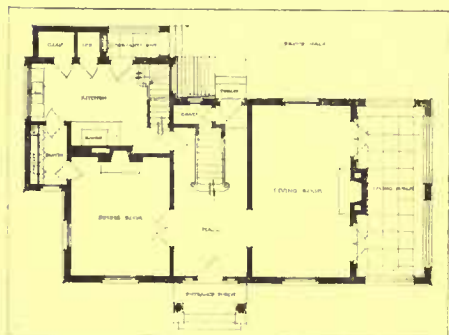
The charm of the doorway is greatly enhanced by clematis vines



There is a look of age about the thatched doorway which we cannot duplicate



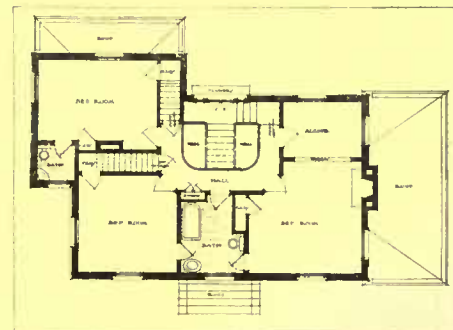
There is a sense of dignity and simplicity about this stucco house that comes from its rectilinear lines and plain, broad windows. Color is obtained by the use of the inlay brick panels



The kitchen department is very well planned

THE HOME OF
MR. CHARLES COY
CRANFORD, N. J.

*Hollingsworth & Bragdon
Architects*



One bathroom opens on the hall and two bedrooms



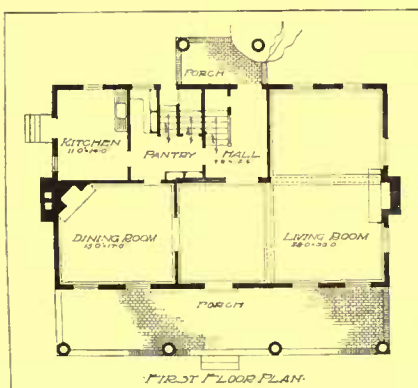
The living-room adjoins a side porch used as a loggia, as it has no outside entrance



A fireplace in the dining room is an appreciated factor for happiness on dull, chill mornings



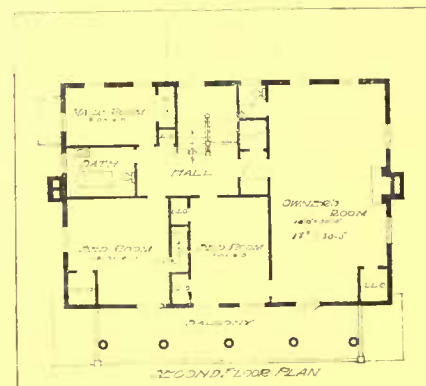
Mr. Graham's house is at the top of a steep slope and is well planned to take advantage of a fine view



The living-room occupies one-half of the first floor



The bedrooms all open on a balcony that extends across the house front



The owner's bedroom is almost as spacious as the living-room



The living-room has an outlook in three directions and is lighted by six windows and a doorway

THE HOME OF MR. JOHN W. GRAHAM, SPOKANE, WASHINGTON



Inside the House

Timely Suggestions and
Answers to Correspondents



The Editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope

Living-room Decorations

A FORMAL living-room was seen in a made-over country house in Connecticut, where it had been necessary to keep the color scheme as light as possible, owing to the fact that the house was so situated that this room had sunlight for only a part of the day. The walls were covered with a two-tone striped paper, which was almost white, but having just a suggestion of yellow in it. The wood trim was of simple design painted ivory white, but its treatment was worthy of more than passing notice, as the ivory paint had first been allowed to dry and then some thin burnt umber was brushed over the surface and quickly wiped off again, only leaving what had caught in the rough surface of the paint, except in the deep crevices of the moldings, where it was allowed to remain and gave a nice tone to the woodwork, which resembled the deep ivory tone one sees in plaster casts.

The furniture was simple models in mahogany after a design by Adam, with caned seats and backs, and a gray rug was on the floor.

The decorations had played their part to a nicety and had brought light and cheerfulness into a room which needed both of these qualities. As this light color scheme was found to be too cold for winter time, it was decided to add a warm rich color note, which was accomplished by replacing the summer rug with one of a deep rose-pink, with just a hint of violet in the color, and hanging long over-curtains of English cretonne, with a valance, at the windows. These curtains showed large bunches of red roses, tied together with blue ribbon, on a cream ground. It would have been impossible to cover a large area with a fabric having such a bold design, but the neutral walls and woodwork supplied restful spaces for the eye and made a frame for the strong color in the draperies. Small pads of rose-pink material covered the seats of the chairs and helped to transform this living-room into an inviting winter retreat.

In a recently completed house on Long Island the owner was her own decorator

and planned and furnished a combination living-room and library that was both beautiful, dignified and homelike. As this was an all-the-year-round house and the living-room would be the most important one on the ground floor, it was deemed wise to delve a little deeper into the decorative problem than mere paper and paint, and at the same time keep the decorations within a reasonable appropriation.

To add to the constructive quality of the room, a window-seat was built into the long window at one end of the room, plain bookshelves were fitted into the corner between the mantel and the door leading to the brick-paved terrace, and a low wainscoting was built around the room by nailing a flat molding to the wall parallel to the baseboard and about three feet above it. The intervening space was divided into oblong panels by means of flat boards extending from the baseboard to the molding above. The rough cast plaster in the panels was tinted a dark brown, to match the rich, dark brown stain of all of

the wood trim, including the window-seat and built-in shelves.

A peacock-blue and yellow color scheme was decided upon, as this room received floods of light on account of its southwestern exposure. The space above the wainscoting was tinted a peacock-blue, which color was repeated in the rugs, draperies and upholstery of the window-seat.

The furniture consisted of a long table, a gate-legged table, a high-backed settee and some chairs, all of dark brown oak with caned seats and backs and reproduced after Old English models.

The long over-curtains of cretonne showed brilliantly plumed birds on an écru ground and neutralized the blue of the walls, and this effect was further carried out in the yellow silk Empire lampshades and the brass candlesticks which stood on the mantel.

Lamp Brackets for Plants

WHEN window space is limited, or where one hates to mar polished sills by placing pots upon them (invariably the result sooner or later) let her go to a hardware store and purchase some of the old-time swinging brackets used to hold kerosene lamps against side walls.

These are merely rings that turn this way and that—sometimes double hinged—from hinges securely fastened in the casings, and into the rings flower pots fit beautifully. Two of them on either side of a window, one above the other, filled with blooming plants or drooping ferns, make a most artistic arrangement, and as they may be turned to catch the changing rays of light, the plants develop more symmetrically than house-plants usually do. Besides, the brackets permit the placing of plants in sunny bay windows where box seats have been built in below and pots upon the sills would be greatly in the way.

Making a Window into a Closet

OFTENTIMES there is a scarcity of closet room and an overabundance of window space in a dining-room. Both of these conditions may be improved by



Hinged lamp brackets fastened to the casings are excellent for plants

the insertion of a squat cupboard in the sill of one of the windows, unless the window is set so nearly flush with the wall as to allow insufficient depth. If the sill is deep enough to allow of drawers, they will be very convenient for table linen. A well-filled rose bowl on top, with the light of the upper window behind, removes any appearance of awkwardness. If the sill be narrow, the little cupboard will best be used for cups and saucers, or with glass doors as a glass closet.

Mahogany Pieces for the Library

PRACTICALLY all of the mahogany furniture now manufactured is copied from Colonial pieces, or at least shows the influence of the craze for antiques, and there are few examples of distinctly modern design. Among these few, however, are some useful pieces for the library in the shape of book and magazine stands that are simple in character and correspond satisfactorily with mahogany desks and tables, whether the latter are genuine antiques or only copies.

The most elaborate of these pieces is the book-wagon, built on the plan of the useful tea-wagon, with two rows of V-shaped shelves, one above the other, each holding eighteen or twenty books. A pair of wheels in front and a handle at the back make it possible to roll the wagon from one part of the room to the other with very little effort, and for the person who likes to have the newest books at hand, or volumes of reference within easy reach, it is a most serviceable piece of furniture. It is made either in plain mahogany, or with inlaid lines if it is to correspond with Chippendale furnishings.

Small tables holding only six or eight books each have square tops and pedestal bases made on slender, severe lines. Set into the top are thin partition boards of mahogany about eight inches high, that divide it into sections, one for each book. On some of the tables the partition pieces are of uniform height and straight across the top; on others the pieces have curved tops, and the one in the center is higher than the others, with a small oblong opening cut in it, to serve as a handle when moving the table about.

Magazine stands are made on the same plan, and have three partitions that increase in height from front to back, providing sections for magazines of three different sizes. Both book and magazine stands are fitted with a single small drawer, presumably for cards or memorandum pads.

A smaller book rack, for use on the library table, is a cleverly designed duplicate in miniature of the revolving book-case. It has a square base, on which the case, which holds only about a dozen books, revolves, and as the whole thing is not more than twelve inches square it is particularly serviceable on a library table where space is limited.

Still another small stand for use on the table is a V-shaped shelf 18 inches long with inch-square supports of inlaid mahogany, making a piece that is light in weight and decidedly graceful in appearance.

It has a decided practical value, for its shape makes it very convenient.



The bed box is ideal for cramped quarters, for many things can go inside it

The Useful Bed Box

THE "bed box" reminds one of the old-fashioned trundle-bed, and a boon to humanity it is. Even in rooms where

one has plenty of space a bed box is desirable, for it may be made of cedar wood and serve another purpose than that of a mammoth bureau drawer. For cramped quarters in any house, and especially for the summer cottage, bed boxes will be found almost indispensable. Those shown in the stores are built on simple lines, and are mounted on four solid wooden wheels which revolve on wooden pivots fastened to the case with flat bolts. The matting covered ones, trimmed with split bamboo, are very suggestive of the cool of the country house, while the cedar chest suggests immunity from moths and ants at all times of the year. They both look well.

In making a bed box, or in buying, be sure the cover is a tight and dust-proof fit. At least two-thirds of the cover should be hung on a hinge, the remaining portion being fixed so that it need not be pulled out the full width from under the bed in order to remove the contents. Matting covered boxes,

edged with bamboo, with brass corners, can be bought for \$6.75.

Curtains for Small Windows

THE windows in the upper floor of an old farmhouse remodeled for use as a summer home were unusually small in size, and the question of how to curtain them resolved itself into a rather serious problem. The bedrooms on that floor were done in chintz, but curtains of this material seemed quite impracticable on account of their shutting out both light and air, until the owner hit upon the scheme of putting the curtains around the windows instead of over them.

Fortunately the rooms were of good height, with a space of about eighteen inches between the tops of the windows and the ceilings. The plan for the curtains was to have a valance of gay colored chintz across the top of each window, with the material hanging in straight folds at either side. The curtain rods, instead of being fastened to the top of the window frame as is usual, were attached to the wall a foot above the frame, and were fourteen inches longer than the windows were wide. When the valances were put on they reached just to the tops of the windows, and the curtains, hanging in straight folds from the ends of the rods, fell just over the frame of the windows, hiding the woodwork, so that the effect was the same as if they had been put on in the regulation way.

The small windows with their many panes of glass were quite effective in their draperies of chintz.



Attic windows may be made to appear normal size by hanging curtains in this fashion



Garden Suggestions and Queries



Conducted by
F. F. ROCKWELL.

The Editor will be glad to answer subscribers' queries pertaining to individual problems connected with the gardens and grounds. When a direct personal reply is desired please inclose a self-addressed stamped envelope

April

AS the current issue of HOUSE & GARDEN goes to press, the outlook for a more normal summer than we have had for several years is very encouraging. At least there is plenty of moisture in the ground, and every indication of an early spring.

With this in mind, do not let a single opportunity slip by you. Be ready to take every advantage of the first few days of planting weather.

First of all, see that you have completed every arrangement you can to enrich your soil in the garden, flower beds and borders. Nothing is better as a base than old, well-rotted manure. It is the surest crop grower of them all. Get all you can of it, and spade it into the ground wherever you have things growing as early in the spring as possible.

Secondly, get all the hardy things in at the very earliest possible date. In the vegetable garden this will include those things mentioned in the first planting group of the garden-making article on page 33. Also, sow under glass—if not already done—tomato, egg-plant and peppers, and on sod or in paper pots, corn, cucumber, melons, early squash and lima beans.

Third, attend to all moving or dividing that is to be done. Many of the hardy and herbaceous perennials are greatly benefited by being taken up, the clumps divided and replanted. Any of this work which was not done in the fall can be attended to now. Also the moving of vines, shrubs, or trees, before they begin to leaf out. In moving these latter, take up as large a ball of earth as possible, and keep it intact.

Fourth, there is pruning of various sorts to attend to, especially of blackberry, dewberry or raspberry canes, and of hardy perpetual roses. (Teas and other tender roses are better left until after growth starts). If fruit trees have not yet been pruned, it is not yet too late to do it if you act at once. Pruning and spraying will work wonders, even the first season, with trees that have been bearing the poorest of fruit for a long or short period of time.

Fertilizer

IT is from twenty-five to fifty per cent. cheaper to buy the components of your fertilizers. You are sure of getting the very best, and you can vary your formula to suit special needs, or use the different ingredients separately: for instance, a light dressing of nitrate of soda on the lawn, the first thing in spring, will induce a quick, luxuriant green growth, due to the available nitrogen; or if the grape vines or rose bushes do not seem inclined to ripen up, as they should toward fall, the potash furnished in a light dressing of muriate of potash will greatly benefit them—perhaps save the next season's delicious fruit or abundance of bloom.

Care of the Frames

THIS month is the most critical of all in growing on the small stuff in frames, for not only the frost by night, but also the sun by day, must be guarded against. If the sash happen to be left on tight on some spring morning, the sun may quickly run the temperature up to way above the hundred mark, and do serious



A convenient way to make the drills and sow seed is by the use of a board in this manner

damage to the plants therein. Great care must also be taken to water freely and frequently, to prevent flats and pots from drying out. While almost any plant will stand a great deal of neglect and abuse without succumbing to it, every such setback means that the chances of bringing it to a perfect development are correspondingly lessened.

Another thing to watch out for is the green plant lice which, if allowed to get a start, quickly work havoc on these warm days. At the first sign of one, spray with some remedy or some liquid form of nicotine, or fumigate with one of the prepared nicotine papers. Either can be accomplished in a few moments, and may save all your plants from practical destruction.

Heretofore we have used square pieces of sod, cut out of good thick turf upon which to start seeds of melons, cucumbers, corn, lima beans, etc., as they do not stand transplanting very well. This year we are using instead square paper pots, which can be purchased in the flat at a very low price. They are just the thing we've been looking for, and will, I believe, not only prove better than the sods, being much more convenient to handle, but should make it possible for those who do not have access to sod that may be dug up, to start all these things early. There will no longer be any excuse for the gardener who does not have sweet corn early in July, and melons long before danger of early frosts, which so frequently get a good part of the crop.

In the Flower Garden

AREN'T you going to have a really beautiful flower garden this year? Last summer—in spite of all the drought—weren't you struck here and there, as you traveled about, with some startlingly simple but attractive effect that you inwardly resolved to duplicate this year? Let me tell you a little trick or two that won't cost you many pennies.

In the first place, most flower seeds are very small, some as fine as grains of salt. What chance do you suppose such seeds will have, planted in a garden where the surface of the soil has probably dried for

several days in the wind and sun, raked over with a hand rake, the lightest touch of which would make a furrow four times too deep for them, and then abandoned to the mercy of beating suns and rains, and a struggle, if they have been sown broadcast, with weeds. Instead of taking this hit-or-miss course, why not nail or screw a 6 ft. long piece of scantling, 2 x 4" or any old size, about 18" above the sill, in a sheltered spot on the south side of the house, and set a 6' board 6" or more wide, up edgewise, parallel to it, about 2½ ft. out. Get two ten-foot pieces of 1 x 2" pine (this is all you will have to buy) and make a 6 x 4 foot frame. Tack over this an old sheet or any piece of light cloth. This will serve as a protection against beating rain, too hot sun, and late cold nights, and with a carefully prepared seedbed of light soil, practically assure the success of your flower seed plantings. It would be, perhaps, two hours' work. Don't you think it would be worth while?

In the rose garden, take your pruning shears, grit your teeth, and cut them down. It may seem to you that you are ruining your bushes, but where you have hybrid teas to deal with—and they are far and away the best garden rose—the best blossoms can be had only by what, to the beginner, would seem very severe pruning. Leave not more than four to eight eyes on a cane, and always cut above an outside eye, so that the bush may develop in open form.

The teas will not need such close pruning. Do not cut them until growth starts. The climbers are best pruned soon after the flowering season.

This month is the best time of the year, in the northern state, for planting roses. For the details, see the rose article in the March HOUSE & GARDEN.

While you are at the cutting business, and after picking all the rose thorns out of your fingers, go over the shrubs—that is, such as flower on this season's growth. Those which flower on growth made last year should, of course, be left until after they bloom. Aim to keep the bushes open and spreading, and symmetrical in outline, and as far as possible cut out the old growth to make room for the newer.

In the Fruit Garden

NOW is the time to make new plantings of small fruits and berries, and of nursery stock—fruits and shrubs. The earlier it can be done the better, for practically all these things will stand late frosts, but are set back by being moved after they have "started."

Pointers on Sowing

MOISTURE, warmth and air are the three things necessary to make live seeds sprout and begin to grow; and these (with light above the soil surface) must all be supplied if success is to crown one's efforts.

By selecting or by making a sheltered

place, the matter of warmth is, if not controlled, at least utilized to the greatest advantage, so that early sowings and plantings may be carried out at least a week sooner than otherwise. If a spot cannot be found that is protected from northwest winds by buildings or a wall, then a hedge of privet, or of some thick-growing, closely planted evergreens, or, for the vegetable garden, even a plain board fence, may be put in as a shelter, that will pay for itself several times over in a few years.

Air is one of the most important factors in turning "raw" plant food into forms that the plant can eat. Cultivation—the breaking up, stirring about, pulverizing and aeration of the soil—is essential to the growth of plants, especially in their early stages.

Except in the very driest of seasons there should be moisture enough in the soil to germinate and successfully start into growth any seeds planted before the middle of June or first of July, without artificial aid. That is, provided the moisture in the soil has been saved there by proper treatment of the soil, or rather the soil surface. Every time a crust is allowed to form, moisture begins to escape from the soil; hence the necessity of going over all exposed surfaces in both the flower and vegetable garden frequently enough to keep the surface fine, dusty and dry.

In the sowing of vegetables, "drills" refers to the method of growing the plants in continuous rows, the plants being only far enough apart to make room for each other. Carrots and beets are grown in this way. In rows they are usually spaced at even distances, so that the soil can be worked between them with a hoe or by hand, while the space between the rows can be cultivated with a horse-hoe or wheel-hoe—the way in which cabbage or peppers are planted.

Hills are put three to eight feet apart each way, and usually several plants grown in each hill, as with corn or cucumbers. One advantage of the hill system, especially in gardens that are not very rich, is that they may easily be given special preparation in the way of drainage, digging and fertilizing, thus encouraging a rapid and luxuriant growth.

To fix hills in this way, dig them out a foot to two feet square and several inches deep. Spade into the bottom of the hole a



This is a good style of pruning shears that should be in constant use at this season

forkful or two of rotten manure, or a handful of cotton-seed meal and bone-dust or both. Be sure that the manure or fertilizer is well mixed with the soil. Then refill the hill with the fine loose earth dug out, and make it flat and level. If the soil is damp, or in a low place, make the hill slightly higher than the surrounding surface. When sowing the seeds or setting the plants, be sure that no manure or fertilizer comes in direct contact with them, or they may be so burned as to be ruined.

In flower planting the terminology is a little different. Instead of hills, drills and

(Continued on page 66.)



To center posts are affixed sloping laths fastened with wires for an excellent support for tomato vines



EDITORIAL



A GARDEN LEGACY

IN another part of this magazine is an article that paints the picture of a garden that a child once played in. It was a garden that was a part of her existence and that seemed as permanent as nature itself. Probably it seemed to the child that the old house and its grounds had always been there and always would, and it naturally grew to be a part of her life. She could watch the growth of the tall foxgloves, from the tangled rubbish that winter left, could see the wonderful reawakening of the lifeless ugliness that the chill winds of March tossed about so cruelly. When June days came, the unfolded mystery of new life made its call upon her imagination and upon her senses. The garden was a wonderful treasure-house—full of the riches of the finest perfume, with the great bounty of color spilled so lavishly everywhere. Then, too, came the little comrades that were so much more satisfying than dolls and toys—the floating butterflies, the yellow-velvet cloaked bee grumbling at his business, the pert robin leaning eagerly forward in his hurried scamper or pausing, head tilted critically, before he pulled the wriggling worm from his sod home.

The garden was a rare playhouse with real and fancied inmates—the last, perhaps, as valued as the first. The strange, shadowed caverns between the close growing plants were the homes of the “little people,” the fairies. On summer mornings among the long shadows and the flash of the dew, they were awfully real—indeed their tiny voices could almost be heard fading away before the full splendor of the growing day. Oh, it was all real, and all so crammed with delight.

There is no substitute for the garden in the life of a child. Some unerring instinct leads children to understand and appreciate and love it all. Nor can the good that it does be calculated, but the days spent there seem to start a growth, parallel to that of the shrubs and plants, of mind and soul and bodily health.

And you, the grown child, what would it mean now to turn in at the gate of grandmother's garden to-day? The host of memories crowding there are only dream-children, but the touch of your hand on the gatepost, you know would bring them trooping before you. You who descant against the impiety of the race, are you doing anything to make this home of yours to be cherished afterwards? Or is it only the four walls with no associations within them or about them, without a tree or shrub or plant to give it life? If that is the case, there will be no more grandmother's gardens, no more old-fashioned things for the generation coming after us, no love for old associations. The home places that are legacies will be converted into cash, because they lack memory's wealth of the imaginative experiences of childhood that would make them of greater price than money.

Forget all the other things then, and this is reason enough for your garden. It is a legacy which the donor enjoys with the legatee, and an investment that compounds its interest to you and yours the longer it lasts—an investment in a lifetime happiness.

MUTUAL BENEFIT

IT was only a humble, little apple, probably worm-eaten, that was the cause of our learning all about the laws of gravitation. Perhaps if the farmer had sprayed the trees in Ike Newton's garden, the apple would not have fallen, and we might still be ignorant of hundreds and hundreds of things, and carelessly might walk off the roof with absolute conviction that we would be wafted softly down to earth. That is only by the way, however, and is perhaps the one exception to the rule that truth never grows out of error.

To return to Ike, greater than the good of his formulation of laws was the fact that he was one of the first to adapt experimental reasoning—to note the results of his experiences, and draw conclusions from phenomena about him rather than to get results merely from mental cogitations. Since he established this manner of thinking as the most approved method, much has been accomplished, and great results come from the most ordinary causes. In a way, we are all potential Newtons in our gardens. Perhaps there is something of just as much value to humanity that can grow out of the simple operations of our garden. At any rate, there is bound to be much that will interest those struggling as we are. Our successes have, perhaps, just the one thing that another has been trying to find out; our failures may be sufficient warning to save someone else that year which they lost us. Modesty is becoming, but in this case is out of place. Wouldn't it be much better to make public the important things in our experiences. Insignificant as they may be as isolated occurrences, as steps in the advancement of knowledge they may loom up large. The falling apple was not of much intrinsic moment, so, who knows, the fruits of your gardening labors may strike some Newton on the head and bring as astonishing a revelation.

SKUNK FARMING

WHILE the conflict rages over the pros and cons of the “Back to Nature Movement,” the paternal government works on in its mysteries aiding the man who lives in the country. Now it is working on the elimination of waste, and making rapid strides in the use of by-products. But all the previous experiments pale before the recent work of the Department, as described in a pamphlet sent out lately. Better than increasing the yield of wheat, or doubling the number of alfalfa crops, or introducing Prof. Bailey's “Drama of the Soil,” is this last achievement. It is the introduction of a profitable diversion for the farmer—the breeding of the humble, roadside skunk.

Your boyhood experiences must stand vividly before you at this knowledge. Perhaps you were an innocent, well-meaning boy, and there is the touch of pique that the sober, old Government could quite outdo your harmless machinations. How much better it would have been when you induced your city cousin to catch the nice pussy that was out back of the chicken yard, if later you could have produced a government pamphlet in your defence and demonstrated that you were only starting Clarence out to be a successful farmer. Perhaps, then, the chair would not have felt so hot when you finally nerved yourself to sit down in your woodshed seclusion. But, at any rate, you did not have to officiate at the interment of Clarence's store clothes, and there was some consolation in the fact that they were almost boiling him alive in the tub, and at the same time suffocating him in the smoke from Chinese punk. Oh, it is just as well to let bygones be bygones, but what a useful thing that pamphlet would have been when you were a lad!

But to spread the glad tidings farther. “If,” so says the pamphlet, “if the cost of rearing the skunks does not exceed the value of the fur the best black skins would probably allow a margin of profit.” If, again, the playful creatures do not eat one another up you should make money. No courageous spirit should be checked by these possibilities, however, and should enclose the acre of ground as recommended—the pamphlet says at least one acre for every fifty skunks. To start in a small way, one might fence in that acre strawberry field next to Neighbor Brown's—leaving a break at the point his chickens usually come through the present fence—just to be polite and neighborly.

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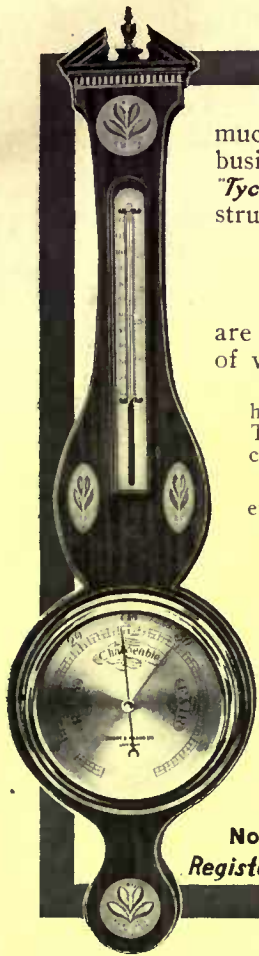
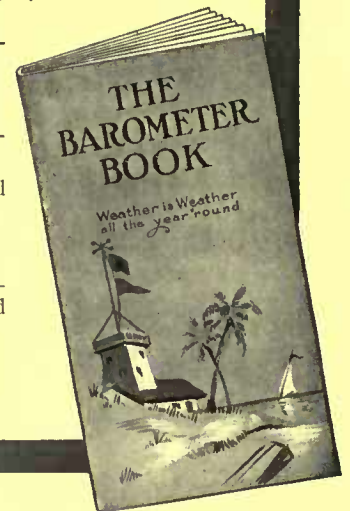
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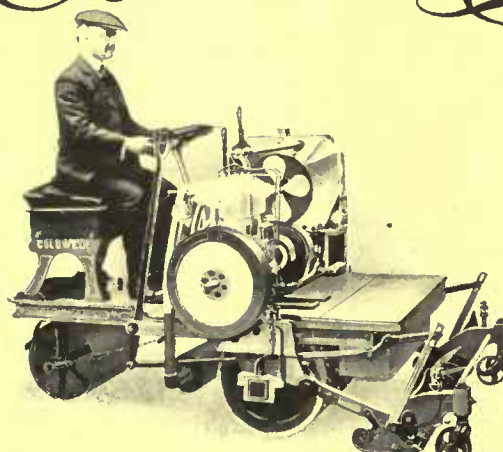
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The Care of Hedges

WHEN a young hedge is cut into shape it is important to keep it so. There is no real need to have a general trimming every year, but it will very quickly and imperceptibly grow out of shape if it is not examined every autumn and the irregular growths cut back. As already indicated, the penalty of neglect, and allowing the top to spread, is a thinning and weakening at the bottom. A hedge kept in this way will last a great number of years; but such a hedge does not represent the average of the country. The farmer will be engaged more frequently in making good the weaknesses of old hedges, more or less worn out, than in planting and raising new ones. We may take first the case of a hedge grown on flat ground without an open ditch. Such a hedge may be growing beautifully, when one day a blight may seem to strike it in patches. Growth is almost at a standstill at these points, and soon the bushes become more or less covered with gray, mossy lichen. These weak bits will probably be found to be at low points on undulating ground, and are caused by the roots striking down into the sour, waterlogged subsoil. The only remedy in this case is proper drainage either by pipe or an open gripe. If a pipe drain is used, it must be two or three yards away from the base of the hedge, as it would soon become choked with roots if much nearer.

A condition that may be observed in any old hedge is a tall, straggling growth of the bushes, with gaps at various points and a thick covering of blackberry brambles. We will take the case of a hedge with an open gripe for an example, as a hedge on the flat may be treated on similar principles. A common mistake with such a hedge is to cut it down to such a height that it will make a good fence, and to stuff the weak points with the brushwood cut out of the hedge. The result of this is a strong growth of straight twigs from around the cut ends of the old stumps, no growth to speak of near the base, where it is required, and no growth at all at the stuffed point. A hedge that has got weak at the bottom should be cut down practically to the ground. All blackberry brambles should be rooted out as well as possible, as they are a source of weakness in a hedge. A blackberry brake will stop anything, but in a hedge the brambles grow up and lie down across the top, smothering the bushes and extending into the fields on both sides. As a result, the hedge becomes a mass of dead wood after a while, and requires renovation.

Where a gap is found in the hedge, the bush at one side is trimmed of all its branches, and cut partly through, close to the ground with an upward cut, on the side away from the gap. This cut should be sufficiently deep to allow the stem to be bent to the ground without breaking off. If the laid stem reaches across the gap and beyond the next strong bush, it may be pegged down with a strong hooked peg



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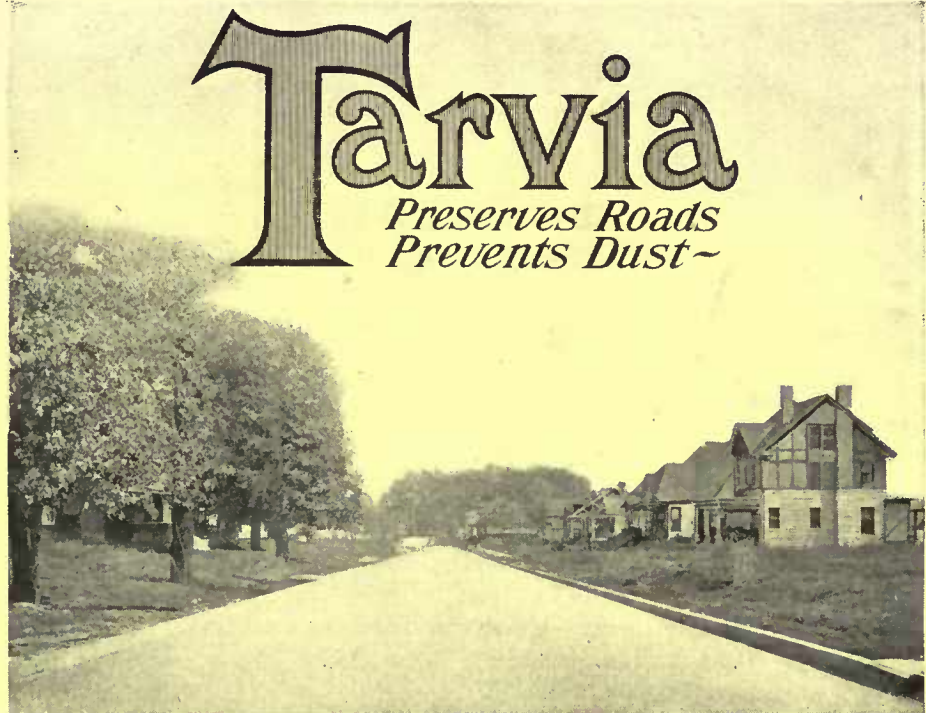
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or two. A healthy stem will sprout along its whole length the following season, and the gap is soon fully furnished. The stem should be cut close to the ground, so that when laid over it may lie on the ground. If the bark is notched at the places where it touches the ground it will send out roots at those parts, and so support the new growth. If it does not lie on the ground this cannot occur, and also small dogs, pigs, etc., may be able to creep under it. Where the gap is too wide for this, a corresponding bush may be trimmed and cut at the other side of the gap, and laid in the opposite direction. If the two laid stems overlap, so much the better. If the gap is too wide to be stopped in this way, it will be necessary to replant it. In this event it must be remembered that the soil is probably more or less exhausted. The old bushes did not die out without a cause. Also the ground is probably full of the side roots of the neighborhood bushes. For this reason it will be necessary to cultivate the gap, as for a new hedge, take out all old stumps and roots and put in a sufficient dressing of manure. It is then ready for planting. The next step is to see to the roots of the hedge. All hedges on the side of a ditch are apt to get their roots stripped through the falling away of the earth from one cause or another. This has the effect of starving the hedge, allowing the wind to sway the bushes and filling the ditch. If there are rabbits or rats in the bottom of the hedge, these must be banished first. Then the side of the ditch under the hedge must be prepared to have the soil returned. If the soil is simply shovelled up and thrown up among the roots of the hedge, it will soon slip down again if there has not been a proper preparation.

Where there has not been an extraordinary loss of earth this preparation will consist in making a ledge about one foot below the base of the hedge, by cutting a notch about three inches deep along the face of the bank. Where there has been much fall it will be necessary to build up a ledge from below. Long, tough sods, a couple of feet long, nine inches broad and four inches thick, are then to be laid edgewise on the ledge, grassy side out, and beaten firmly to the bank with the back of a spade. If these sods are cut with sloping ends instead of square ones the neighboring sods will overlap and soon knit together. As the grass grows the roots will penetrate the bank, making the whole secure. After these sods are beaten in, a second layer of sods, six inches broad and four inches thick, is laid on the top of the first, extending backwards towards the roots of the hedge. This layer is to be put grassy side down, so as not to choke the hedge. The ditch is then shovelled out, and the earth thrown on top of the sods and worked in among the stumps of the hedge.



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the prospect of quick deterioration, but is bonded firmly with Tarvia to preserve it against automobile traffic.

Mr. George C. Love, Memphis Commissioner of Streets, writes as follows:

Gentlemen:—During the season of 1910 the City of Memphis let contracts for fourteen miles of tar macadam pavement, and during the season of 1911 we let contracts for eight miles of tar macadam pavement.

In the above work, Tarvia X was used as binder material almost exclusively in the two-gallon treatment. The streets as a whole are very satisfactory and we expect to do a great deal more during 1912. In addition to the above work, the City laid with their own forces about 20,000 sq. yards of tar macadam with a 1½ gallon treatment using Tarvia X. The property owners who pay the front foot assessment seem to be very much pleased with this form of construction.

There are three kinds of Tarvia: "Tarvia-X" used in road construction as above, "Tarvia-A" for surface work and "Tarvia-B" for dust suppression.

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will give the charm of nature to your yard. These include not only hardy wild ferns, but native orchids, and flowers for wet and swampy spots, rocky hillsides and dry woods. We also grow such hardy flowers as primroses, campanulas, digitalis, violets, hepaticas, trilliums, and wild flowers which require open sunlight as well as shade. If you want a bit of an old-time wildwood garden, with flowers just as Nature grows them—send for our new catalogue and let us advise you what to select and how to succeed with them.

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Annuals, the Garden Reinforcements

(Continued from page 19)

the rich golden color of its blossoms into harmony with the other plantings. The white stock and Mourning Bride planted nearby, however, will insure perfect peace.

Phlox Drumondii seeded in early April, and portulaca in June, among the sweet williams, will clothe such plantings the rest of the season with the same bright cheery effects. These annuals succeed best when sown in the open garden where they are to flower.

The white variety of nicotiana and summer cosmos are ornamental and useful plants to fill in vacancies left by tall flowering perennials—hollyhocks, delphiniums, Job's tears, coreopsis, garden heliotrope, and Madonna and Auratum lilies, etc., etc. Such seed may be sown broadcast if desired, but I find it more satisfactory to transplant the plants from pots, for in this way one is able to fill existing vacancies as needed.

The most important annuals of all, perhaps, are those which bring the whole planting scheme into a grand harmony of glowing color. This honor is imposed upon the varieties bearing white flowers and such plants cannot be used too generously. Planted singly and in masses wherever they may be crowded in, the snapdragon, Empress candytuft, petunia, aster, stock, Mourning Bride and tuberosa will be found especially worthy in bringing about this happy condition.

The perfect garden, perhaps, exists only in dreams. And yet, although the true workman is never satisfied with what he has wrought but is ever visioning new and rarer beauties to be achieved, happily, it is possible to create a garden filled with loveliness that will radiate with joy and happiness throughout the golden days when spring, summer and early autumn hold sway.



A Commuter's Vegetable Garden

(Continued from page 30)

celery plants, where the potatoes came out. Such little labor-saving schemes are worthy of consideration by the commuter, whose every minute counts.

The whole time I spent in this garden averaged about twelve minutes per day, from early April to late August. I found that various obstacles arose to prevent working continuously, or for a regular length of time each day, but I aimed to work about a half-hour at a time, as it hardly paid to get out the tools and put on old clothes for a shorter period.

The patch was in very poor shape to begin on in April and it required some strenuous digging to get it ready. It would have been much easier if it had been ploughed and fertilized the previous fall. For cultivating I found the wheel hoe of great value, and am tempted to

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think that had the original "man with a hoe" been provided with one of these useful instruments, he might not have been held up to the world as a "brother to the ox." I fertilized the garden with stable manure and the ashes from some burned cow-pea bushes.

Aside from the value of the vegetables, the benefit of the fresh air and good exercise is of great importance to the gardener, for the bracing morning air is a veritable tonic to him and gives him a keen appetite. Likewise if his business hours are such that he can put in a half hour before dinner at night, he will soon forget his office concerns and be able to enjoy his evening meal with added zest, and the satisfaction of having on his table something that his own efforts have helped to produce. In every respect I found my commuter's garden a source of satisfaction and success and would urge others to try it.



Remaking a Small Lawn

(Continued from page 40)

place your order until you are satisfied that you are going to get the best possible value for your money. You need not be an expert on grasses, or even a partial expert, to find out certain things about grass seeds that probably always escaped your notice simply because you did not know how to go about searching them out. Judging from the literature spread about the country one might be led to believe that there were several thousand kinds of grasses adapted to lawn use, and that besides these many kinds that there were certain individuals who had the monopoly of a few other mysterious kinds known only to themselves. All this makes good advertising literature of the spellbinder type, but when the matter is sifted down, the truth will show that the list of seeds available for making a lawn is very short. When this is known it is up to the purchaser to get busy to get the first quality of these particular kinds.

Even where but a small quantity of seed is to be purchased the same precaution should be followed, and under no circumstances should seed be purchased in already prepared packages. Your need for the small sowing is proportionately the same as for the larger and the care consequently in selecting should be the same. If combinations of seed are used—Blue Grass, Red Top, bents—sow from two and one-half to three bushels to the acre.

Before sowing try the following way to administer fertilizer. Take sheep manure and subject a quantity of it to a strong heat, not hot enough to cause ignition; after this powder it very fine and mix it liberally with the seed that is to be sown. Or, instead of mixing with the seed, spread it over the ground just before the seed is put out. This treatment has a



Standing at the opposite end of the sunken garden, this interesting, attractive grouping faces you. It fits in wonderfully harmoniously with the garden scheme. A very natural linking of the two gardens—the outside and the inside ones. The outside one, beautiful for but a few short months at best; the inside one, a wealth of rose blooms practically the entire year around.

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Another one of the joys of a greenhouse garden is that you can keep your conservatory constantly supplied with flowers and foliage plants. When a plant looks laggy—send it down to the gardener and replace it with a fresh, healthy one.

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stimulating effect on the new grass and not only produces an early growth but seems to cause the grass to thicken and endure much better than that which is treated in the usual way. There is absolutely no danger of the manure hurting the young grass, but as has been said it will be directly beneficial; not only that, but the liability of a crop of weeds is overcome.

When this fertilizer method is applied in conjunction with a soil that has been properly prepared as to subsoiling, ploughing, manuring and draining, the results will be all the more satisfactory.

In buying grass seed remember that there is one great grass suitable for northern lawns—that is, north of Washington—and that is Blue Grass. Used alone on a heavy, retentive soil it will make a beautiful lawn. Combined with Red Top and the bent grasses it will be suitable for lighter soils.

Regardless of the seed sown it should all be tested so as to determine its exact quality.

Clean seed is absolutely necessary to get good results. Much of the seed on the market is positively dirty, with a large percentage of chaff and weeds. If care in selection is not taken this is what you are very apt to get. In the first place, seed should be bought by weight specifying the number of pounds per bushel instead of taking the bushel regardless of what the contents weigh. For instance, selected Blue Grass seed will weigh about twenty-five pounds per bushel and will be almost wholly clean seed, while the ordinary seed sold by the measure will average about eleven to thirteen pounds to the bushel. Surely there is something suggestive of wrong here. It means simply that the seed weighing twenty-five pounds to the bushel has been recleaned and all deleterious matter removed, reducing the bulk to available seed. The other seed has not been cleaned and may contain a little of everything objectionable with a bulk of chaff and a lurid assortment of weeds. You have got to pay a good price for this pure seed, but it certainly is worth it, for by its use you get results.

When about to order seed send to a number of dealers and have them send you a sample of Blue Grass (Kentucky and Canadian), Red Top, R. I. and Creeping bent and Sheep fescue. Have them mark on each envelope the name, weight per bushel and price. After receiving them make a comparison. Examine some in the palm of your hand, spread them out on paper and even use a magnifying glass. Under such a procedure it will be quickly demonstrated that all grass seeds are not alike and that even in the supposedly best there are things that are not supposed to be there. Go a little further and test for germinating possibilities. Sow the seed in pots or shallow boxes and put a label in each pot or box stating the name of the grass seed, the time of sowing, and the name of the firm from which it was received. Note the time of appearance of

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the seed in each pot and also the percentage of losses. Doing this will give a still further line on what you may expect from the samples of seed submitted. As on the success of the sowing on your grounds will depend the excellence of the turf, no effort should be spared to settle the question of what seed to use.



System in the Vegetable and Flower Garden

(Continued from page 36)

in a border, or long narrow bed only a few feet wide. It should be wide enough, however, so that grass roots will not steal all the plant food in it. Three to five feet is the usual width; and it is a good plan to take the spade, or "edger," and cut down a foot or so all along the edges, say once a month, to cut off intruding roots of all kinds.

A good plan is to have the hardy perennials, which as a rule grow taller than the annuals, in the back part of the border, with a strip at the front for annuals.

Edgings are usually made of low-growing, free-flowering plants of a single color—although exceptions to this rule often produce very striking and attractive results. The quick-growing annuals, if sown when the beds or borders are planted, will be in flower in time to use for this purpose. Edgings are used for both beds and borders, and if judiciously chosen add very greatly to the beauty and finish of the flower gardens.

Beds for flowers are made in all sorts of shapes and sizes, and placed in all sorts of situations, but the old-fashioned sorts of carpet bed, design beds and circular beds with rows of different and contrasting colored flowers are fortunately giving place to more simple and artistic uses. Flowers used in masses are both more effective and more natural, and a little care used in planning will assure harmonious colors and succession of bloom until after frost.

If one has but a few dollars to spend for the beautifying of the grounds, it cannot be better used than in getting seeds of choice sorts of the old favorite flowers, a great many of which, in the last few years, have been very greatly improved. Care will be required in getting them safely started; many of them, after that, grow like weeds, and yield a profuse harvest of beauty and joy all summer long.



The Perennial Garden from Seed

(Continued from page 39)

crape, add to the beauty of this variety. The plant itself, however, is not nearly so vigorous or symmetrical as the *elatum* larkspur and its hybrids. A pleasing

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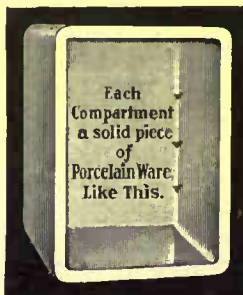
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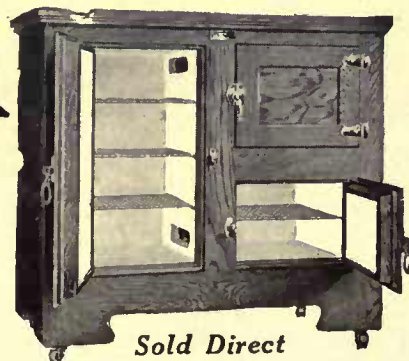
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ful) and two deep rose. These were planted in the shady portion of my border with foxgloves for June blooming, aconite for fall, and a scattering of columbines for spring in the foreground.

Of the columbines or aquilegias, there is a bewildering number of good varieties, but the beginner will do well to confine himself to the large flowered white, *nivea grandiflora*, a quick and strong grower; Rose Queen, and the blue and white Rocky Mountain columbine, *Aquilegia caerulea*. The *caerulea* hybrids and *Skinneri*, a large flowered yellow, with red spurs, are also good.

A pretty, easily raised perennial is the blue flax, *Linum perenne*. This begins blooming in June, when it is a sheet of delicate blue flowers, and continues to bloom more or less freely until fall.

Seeds of *Polyanthus* or bunch primroses may be sown in January for spring and early summer flowering. The primroses are charming dwarf plants, good for edging beds or for using as undergrowth. I have used them effectively to carpet a bed of Japan iris. Like the irises, they enjoy a good deal of water during their period of flowering.

A perennial that everybody with a bit of shade wants is the forget-me-not. *Myosotis palustris semperforens* will bloom in the spring from January sowing. So also will all varieties of dianthus and the everblooming sweet-william, which flourishes under the somewhat formidable name of *Dianthus latifolius atrococcineus* Fl. Pl., a crimson-scarlet double pink borne in graceful sprays, excellent for cutting. June pinks, sown early, make large tufts of blue-green foliage and will often bloom a little the first summer, but it is in the second summer that the patient gardener has his reward in the sheet of pink, white and rosy-crimson, fragrant flowers.

A handsome perennial for late summer and autumn flowering is the gaillardia (Kelway's hybrids), very gorgeous with its rings of red, crimson and orange. The upper root of gaillardia frequently winter-kills, but the lower root almost invariably sends up from six to a dozen shoots, so that, once introduced, the gaillardia may safely be reckoned a permanent inhabitant of the garden.

Perennial phlox seed germinates readily provided—and the provision is all-important—it be sown immediately upon ripening. Therefore do not buy perennial phlox seed in the spring. In September the seed ripens, and in September or October, accordingly, the seed should be purchased and sown. The seedlings grow rapidly and bloom during their first summer.

A perennial much advertised of late is the Dropmore anchusa. It is undeniably beautiful in flower and the seeds germinate very readily. I have not, however, found it very hardy. To me a more satisfactory and really more beautiful variety is the often overlooked, certainly seldom mentioned dwarf *Anchusa barrelieri* with



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We Would build them Better, But we Can't*

a profusion of spring blossoms as blue as the bluest spring sky. From August sown seed, the *Anchusa barrelieri* will bloom the following spring.

There is no spring-flowering perennial, however, so brilliantly showy as the oriental poppy. A large bed of it, or better, a mass planting in the border, paints a garden picture not to be forgotten. The huge, flaming blooms, with a black blotch in the center, are carried on stout stems three and sometimes four feet in height above splendid, fern-like foliage. There are now beautiful hybrids of this poppy, the most distinct of which are Blush Queen; pale pink; Princess Victoria Louise, salmon pink; and Beauty of Livermere, immense, deep blood-red. Poppy seed should be sown on finely sifted soil and barely covered. Do not allow the soil to dry out. It is best to cover the box or bed in which it is sown with a piece of thin cotton cloth or a newspaper until the little plants are up; then air and light must be given them. If the seed is sown in spring or early summer the oriental poppy will bloom the following spring. Each plant eventually forms a large clump, carrying thirty to forty flowers. A bed of scarlet oriental poppies during a spring rain certainly lightens the dreariest landscape and makes positively cheerful the most sullen and lowering day. The new householder should certainly plan for fifty or a hundred of these. Two ten-cent packets of seed will meet the demand. When oriental poppy seedlings are planted in their permanent location, they should be associated with plants that bloom later, for the foliage of the hardy poppy dies down after the plants have bloomed and does not reappear until August. I have tried various cover-plants, forget-me-nots, pentstemons, snapdragons, and phloxes. Of these I have found snapdragons and phloxes the best. If phlox is chosen, the plants should be set every few feet throughout the mass planting of poppies. If snapdragons are selected, it is better to alternate them with the poppies. Instead of setting the poppies two feet apart (to provide for future growth), allow two and a half, and in the center of these spaces plant, each spring, the little snapdragons.

Snapdragons are tender perennials, but they are very easy to raise and charming in flower. They come in a wide range of color from creamy white and yellow to salmon-orange, and from pure white, through beautiful pinks to rose, crimson, and maroon. Seeds of the tall snapdragon, *Antirrhinum major*, should be sown very early in boxes indoors. The plants begin to blossom in midsummer and flower until frost.

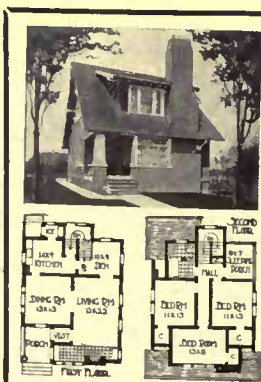
One of the most reliable tenants of our gardens is the great family *Campanula*. From the tallest, *pyramidalis* (chimney bell-flower), to the dwarf *Carpatia* much used for edgings, all are good. Perhaps the best of all are the *Persicifolias*, single and double, and the well-known Canterbury bell, *Campanula Media*, with its even

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handsomer variation *Calycanthema*, cup-and-saucer. It must not be forgotten that the Canterbury bell is a biennial and that seed of it must be sown every year. It is so beautiful, however, that few who have once enjoyed it in their gardens, grudge the labor of sowing a few seeds of it every spring. The campanulas should be had, if possible, in variety, as many of them bloom at a period when little else besides spiraeas and the oriental and Iceland poppies are in bloom.

The Iceland poppy, like the crocus and scilla, is the harbinger of spring. Before the snow has entirely disappeared, the reddish-brown tufts of foliage begin to don a spring-like green and little buds, for all the world like tiny down-covered heads, begin to show. As if by magic these little heads shoot up on long, slender stems until, as by a preconcerted signal, the little caps pop off and a mass of crinkly, silky flowers of yellow, scarlet, orange and white appear, as cheerful, inspiring, and charming a sight as so many golden daffodils, and much more graceful. The Iceland poppy is hardy in most localities for about three years, but older clumps, enfeebled, perhaps, by too persistent flowering—for these little plants are great bloomers—often winter-kill. In raising Iceland poppies from seed, care must be taken to keep the soil in the seed box moist, but not wet, as in a heavy wet soil the seedlings damp off badly.

A plant little known in this country, though much grown in England, is *Meconopsis Wallichii*, a native of the Sikkim Himalayas, and a near relative of the poppy family. It is a stately perennial, three to four feet high, bearing light blue, poppy-like flowers in July and August. If the amateur wishes something rare, he might try this and its yellow brother, *Meconopsis integrifolia*. Seed of both these varieties may be obtained from seedsmen in America.

The number of hardy plants that can be easily and satisfactorily grown from seed is almost legion, and the writer, no less than the gardener, needs to practise restraint. The householder has to think of individual requirements, of the desirable or perhaps necessary location of his border, of its possible length and breadth, of the need of shade plants, or of those that luxuriate in the sun, of tall perennials for the background, of dwarf plants to edge the grass; but he has a large list to choose from and if the directions usually printed on seed packets be followed with intelligence there is no reason why he should not create a setting for his home that will lift it above the ordinary.



The Naturalizing of a City Man

(Continued from page 31)

in rows of thirty inches instead of thirty-six inches apart, and cut in larger pieces than the Squire had cut his—and

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Both quotations above are from Bulletin 95, (page 44) U.S. Dept. of Agr. (Forest Service), June 30, 1911.

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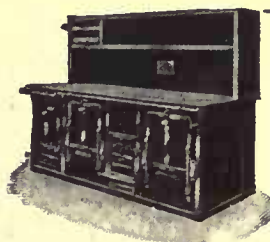
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consequently they had to buy several bushels more of seed to plant the area they had figured on. They had to plant by hand, as the only machine planter in the neighborhood was engaged for days ahead. They had, however, at Raffles' instigation, invested in a covering attachment with the cultivator they had bought; and as everybody, women folks and all, turned out to help drop the seed, leaving Mr. Mantell and Raffles free to furrow out, sow the fertilizer, run through the rows to mix it with the soil and then cover after the droppers, the work progressed rapidly, for "many hands make light work"—when they are all interested in the job.

Another result of their trip to the station was that, while the Squire had planted potatoes before they did, their corn was in fully a week before his, and the earliest of any in the neighborhood. Also it was put in deep—"so deep," said the Squire, "that it will never come up;" and on some of the Squire's low, heavy land it probably never would have. On Mantell's light, sandy loam, however, it did, and because he had tested his seed, and knew just how thick to plant it, he got almost a perfect stand, even with the high priced new sort that had tested only sixty-nine per cent. in his trial.

If Mantell's new-fangled ways of planting—he had, for instance, spread all his corn fertilizer over the ground and harrowed it in, instead of putting it in the hills—amused the Squire and his neighbors, they were still more amused at the way he started in to cultivate them. His fields of corn and of potatoes were not large, and the potato field was gone over three times and the corn field twice before there was a plant above ground in either. For this purpose they used a heavy "brush" made of straight young birch trees. At the Experiment Station they had seen a new steel harrow, with spike teeth, adjustable by levers, and with a spring tension for each row of teeth. Mantell could see that this was a great improvement over the harrows he had seen around Priestly Junction, but as the treasury would not stand the strain of getting one now, he decided to get along without any at all that season, instead of buying a cheaper one. He made it a fixed policy, when buying any machinery for the farm, to get the very best, and then take the very best care of it. Not infrequently, in his drives around the country, he had seen plows and cultivators that had been left in the field where their owners last used them, and even a mowing machine stored under a tree—and by men who had a nation-wide reputation for being thrifty!

The reclaimed quarter acre was at last ready to plow. They had spent hours of drudging toil on it—many more than Mantell had anticipated putting into it when he and Raffles staked it out. Jeremiah had promised to plow it for them, and finally turned up; but after working



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two hours he gave it up as a bad job. There were not many stones, but the scrub oak stumps and roots were a hard proposition, and back went Jeremiah with still stranger tales of Mantell's craziness. So they fell back on the Squire, and he sent a man over with a yoke of "cattle," and a plow that seemed to have belonged to an era previous to that of the original "man with the hoe." They were slow—"slow as molasses in fly-time," as their driver explained—but they did the work. Mantell and Raffles were kept busy with Prince and the Squire's "stone-boat" on which the ancient plow had been conveyed over to the battlefield, carrying off stones, stumps and roots. After the best they could do with it, it still remained pretty rough-looking and the rows they furrowed out took rather sinuous courses. But there was plenty of dirt, and it was very good dirt, too.

Mantell had saved for this field the barrel of extra choice potatoes. They were cut carefully, in generous-sized pieces, and covered by hand, too, as they could not cover with the horse and cultivator in these crooked rows. Another reason was that these potatoes had been spread out in shallow boxes under the greenhouse bench for several weeks, and now had stubby green little sprouts just developing, which they wanted to be careful not to break off.

It was almost three weeks after the Squire's potatoes were planted—in fact they were already breaking through the ground—before this little patch went in. It happened to rain soon after it was planted, and they were able to get over it with the "bush" only once before the little green sprouts were pushing up through the soil, and in two weeks they had fully caught up with Mantell's earlier planting, and seemed to be making a brave effort to catch up with the Squire's. This experiment received Mantell's special care, and nothing that he could find out about the way of cultivation was neglected for them. The result was that they kept up a rapid growth from the start, and his scrub oak field soon began to be famous.

VIII

The month of May was of course a very busy one in Raffles' Department. Not only were they busy planting and taking care of the crops in the ground, but other momentous things happened. The first bunches of radishes and the first heads of lettuce were taken to market. Great was the excitement at the offices of the company—as great as if they had been children.

The very first heads were from three of the coldframes, which Mantell had managed to empty in time to set out a few dozen of the largest lettuce plants, with radishes between. There were only three frames available for such use, the first being full of spring plants. From these, however, they marketed eight dozen lettuce at sixty cents a dozen; two dozen bunches of beets at ninety cents and nine dozen

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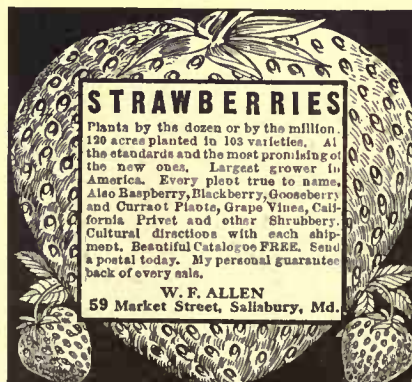
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bunches of radishes at forty cents a dozen—\$10.20 in all from the three sash. These were ready ten days before any of the outside stuff, but with this too they had the satisfaction of getting the earliest in the neighborhood. Mr. Goldman, the butcher with whom they dealt in Priestly, was glad to take all these things, and very pleasant about giving them pointers as to how to tie them up, prepare them, etc., as Raffles had had more experience in growing things than in marketing them.

Another exciting event of the May season was the "run" they had upon the greenhouse for a week previous to Decoration Day. Raffles had insisted on putting a small part of the meager sum available for greenhouse expenses into flowering plants of one sort and another, and had about 150 geraniums and small supplies of several other plants in stock. Mantell had not approved very heartily of this side line, but thought it best to let Raffles go ahead and try things out as long as he was such a ceaseless worker and seemed interested in this hobby.

Great was Mantell's surprise, upon being called in from the garden one day to attend to the needs of a lady customer—Raffles having gone over to the Squire's to return his post-hole digger—to find that practically all these fancy things had been cleaned out. For a week he had been very busy and had not happened to take any notice of things in the greenhouse. This sudden disappearance of things he was at a loss to account for, until Raffles explained to him how many purchasers they had had, and reminded him how the numerous small orders for vegetable plants had counted up.

All this set him thinking quite seriously, and upon further investigation in town, where he found out that his friend Goldman had bought ten to fifteen dozen geraniums and dozens of pansies every spring from a florist some miles distant, and sold them all without trouble from a stand at his door, Mantell decided that this end of the business was worth expanding. They could easily have disposed of several times the quantity of early vegetables they had grown under glass, and were sold out clean on cabbage, cauliflower and lettuce plants, and this all in the first season, and with a brand new business. It was very evident that another year they would have to have more "glass."

With the beginning of the marketing of the garden vegetables the financial situation was beginning to be relieved a little—they had been through pretty hard times. There had been times when, in spite of the closest economy, there had not been cash for the grocer and butcher—times when if Raffles had been drawing his full wages, they would have been in distressing poverty. As it was, Mantell's little capital was eaten up, and they owed some bills—besides \$75 to the Squire for fertilizer. At the most critical time they had let two of the four pigs go to Goldman—they had cost \$8 and brought, after about four months, \$19.60, which, needed for



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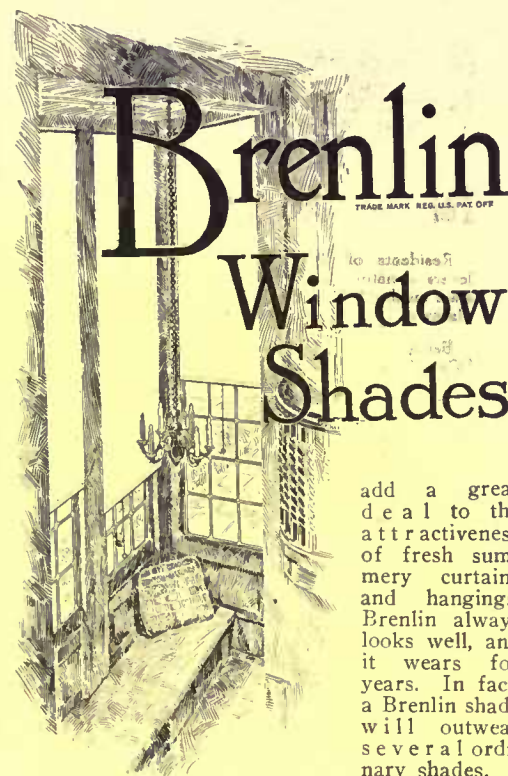
grain and seed, had saved the day. On the other side of the balance sheet, however, were health and happiness unbounded for the whole family, many permanent improvements on the place, a good garden and some field crops well started, quite a nice little beginning in the way of farm machinery, and several good new friends, among them the whole-souled and open-hearted Squire, worth his weight in gold.

Mantell enjoyed the garden work immensely, and found it a labor of the head as well as of the hands. There were sharp observations to be made, conclusions to be drawn, enemies to be circumvented, labor-saving ways of doing things to be figured out. There was also a joy to be taken in the care of the field crops, in cultivating and hoeing the potatoes and corn. This was more routine work, and while not so interesting, nevertheless it left more time to drink in the unlimited sunshine, to compare the new, more natural life with the rush and worry of the old, to philosophize a bit, and above all, to turn over and study the many problems that presented themselves, and to develop plans for the coming year. Already it seemed to Mantell that he could see a hundred mistakes in everything he had done. The whole thing became a great and absorbing game to him, ever in his thoughts but never tiring. He was a great reader, and not a few dollars for which there were many other uses found their way to the office of a publishing house that made a specialty of agricultural and horticultural books. One in particular—Terry's A. B. C. of Potato Culture—proved an inspiration to him. He found in it not alone notes on the cultivation of that humble but valuable tuber, but almost a new philosophy of life, all the better because its author never dreamed of being a philosopher. Not even the Squire's big pair of grays could have dragged Mantell back to his old life again. Wealth had ceased to become a goal to him. Not but that he appreciated the comforts of life, and had every intention of winning back many more of them than they at present possessed, but money was no longer an aim in itself. Success he wanted, and meant to achieve, but there was a deeper joy in his present battle for it than he had ever discovered in his fighting in the years that were left behind.



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blooms, a total of eighty-two on one bulb. The first flowers opened on October 15th, and I had some flowers at the end of January. The treatment which has produced good results with about a hundred pots of it was as follows: As soon as the flowers are over, the pots are laid on their side, beneath the staging of a house with a temperature of 55° to 60°. About the middle of March, when the new growths begin to push from the base of the bulbs, they are shaken free of the soil and well washed in warm soapy water before being dipped in the best insecticide for mealy bug and brown scale. The roots are shortened to about an inch, and then potted in a compost consisting of two bushels of good fibrous loam broken up into pieces about the size of a walnut, one bushel of peat fibre, chopped sphagnum moss, half a peck of half-inch nodules of charcoal, half a peck of dried cow manure broken to pass through a quarter-inch sieve, one bushel of oak leaf soil, half a peck of quarter-inch bits of soft brick, and half a peck of clean silver sand. These are thoroughly mixed, and then warmed in a house for three days. The bulbs are potted singly, the largest in six-inch pots, the next size in five-inch pots and the remainder in threes in six-inch pots. The pots are filled to one-third of their depth with clean crocks, over which a layer of the rougher portions of the compost is put; the bulb is then held in position and the compost pressed firmly into the pot, the roots left on them serving to hold them firm until new roots have gained a grip of the compost. When finished the base of the bulb is just below the soil, room being left for top dressing when the pots are well filled with roots. When firming the soil round the bulbs care is taken not to injure the new rootlets which emerge from the base. All the bulbs being potted, they are placed in a house the temperature of which is kept at 55° to 60° in winter and 60° to 70° in the summer. An ordinary side stage covered with shingle or ashes is a suitable position, setting each pot on an inverted five-inch pot so that it will be convenient to dampen the shingled staging, etc., several times a day with a small watering pot. It is not advisable to syringe the calanthes unless the temperature is higher than the figures given, as if the leaves are wet in a low temperature the foliage is likely to be disfigured with black spots. Until the young growths are growing nicely, usually early in April, the plants are not watered, the soil being kept all the while on the dry side. Beyond the maintenance of the required temperature and shading there is little to be done, except removing superfluous growths, only one growth being allowed for each bulb. From the middle of June, or when the growth begins to bulb, a stimulant is given, liquid cow manure and soot water being good. A month later a top-dressing with a mixture of loam, leaf soil, cow manure and brick rubble in equal parts, and all passed through a quarter-inch sieve, may be given, after which clear water only

(Continued on page 66)

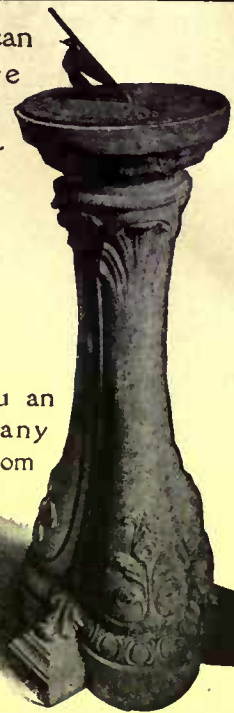
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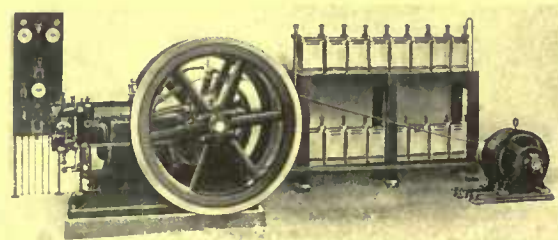
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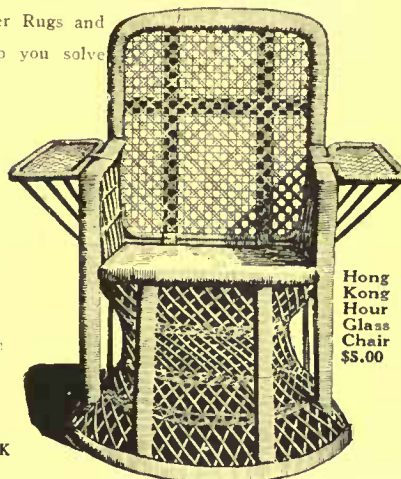
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(Continued from page 64)

should be used. When the flower spikes show the feeding may be resumed. As the day grow shorter and the sun less powerful growth is slower, until about the middle of October, when the leaves begin to sicken and fall off. Less watering is then required, and in November it may be discontinued entirely. W. R. GILBERT



Garden Suggestions and Queries

(Continued from page 47)

rows, we have masses, borders, edgings and beds. They are, however, very nearly analogous.

Plants in the border are usually planted in single clumps (hills) several feet apart, so they can be worked between. The hardy perennials which have a tendency to spread and form a solid mat will do much better if they are kept cut down to smaller clumps, either by lifting and dividing, or by cutting part of the root growth at the end of each flowering season.

The counterpart of the drill is found in edgings, where the seed is sown thinly in a continuous shallow drill, or the small plants set close together, so that when grown they will form a long narrow ribbon of color or of bloom, in front of taller growing plants.

Flowers set out in beds are usually planted in straight rows, eight to twenty-four inches apart, so that during their early growth they may be easily cultivated and develop evenly.

For mass effects, they are either planted close together or the seed is scattered broadcast, so that the individual plants are lost sight of. Many of the half-hardy garden annuals are used most effectively in this way. It is well, when sowing seeds by this method in the open, to work up the ground as soon as possible in the spring, and let two or three crops of weed seeds sprout, and be hoed up, before the flower seeds are sown.



An Experimental Year in a Flower Garden

(Continued from page 24)

The cosmos got a late start and gave me no little anxiety, fearing it would not bloom before frost. I had never seen them, but their beautiful, finely-cut foliage made a far better background than was possible with the peas. I read that to pinch out the top would induce earlier bloom. This I did on a number, but without noticeable results. In order to throw the strength to the top, I pinched off quantities of lower buds. These plants, four to six feet high, began blooming the fourteenth of October, and were

(Continued on page 72)

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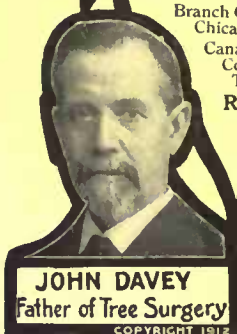
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A Common Sense Explanation of Fertilizers

(Continued from page 17)

the son poor." In spite of this dire prophecy, liming is an excellent practice and the amateur gardener should lime his ground every two or three years, especially if it is located in a damp place where there is poor drainage.

The chief purpose of this article is to simplify if possible the subject of artificial fertilizers, phosphates, bone dust, guano and the like. Where we are unable to get sufficient manure the use of one of these is almost essential to continued success with the home vegetable garden. Until the laws of most states made it a requirement of law for the fertilizer manufacturer to print on the bag the formula of the particular fertilizer that he was selling, it left the farmer almost in the dark whether he was paying twenty or thirty dollars a ton for something that would actually make his crops grow or for something that had as little fertilizing properties as an old shoe. Experiments have shown that to obtain a maximum yield of various crops, fertilizers should be used to meet their especial requirements. That is what all the big books are written about. The small gardener need not concern himself about this, however. The kind of fertilizer for you to use is the one called "a complete fertilizer." It is simply a standard general fertilizer. A very good mixture contains 3 per cent. of nitrogen, 8 per cent. of phosphoric acid and 12 per cent. of potash. The quantity to use will depend upon how much manure you have used. Where practically no manure is available, five hundred pounds to the acre is a safe quantity. Most home gardens are considerably less than an acre in extent—which is 43,560 square feet or about 207 feet on a side. It may be calculated that 500 pounds to the acre is equivalent to three pounds to the square rod or about an ounce to the square yard. This is not an absolute rule, and nothing very serious will happen if you use a little more or a little less. It is very important to keep any kind of fertilizer away from direct contact with the roots of growing plants.

Where you do not wish to broadcast a fertilizer, but to apply it directly to the rows where the plants are to grow, the fertilizer should be worked in with a hoe around the plant and not be thrown in a heap against it. An excellent practice is this: after we have made our trenches or rows where our seeds are to be sown, sow some fertilizer along these rows and then drag a chain over it. It will be mixed with the soil and will be just where the growing plant can get at it when it sends out its rootlets.

My garden consists of about half an acre. When I started it, the plot was a piece of sod ground that twenty years before had been a corn field. When I took

(Continued on page 70)



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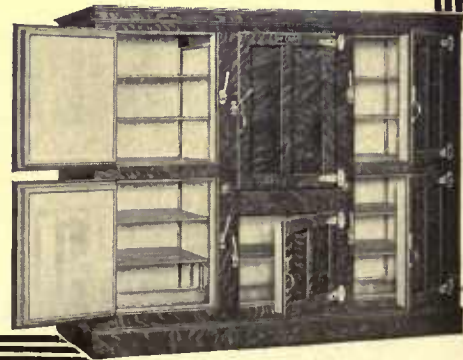
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(Continued from page 68)

hold of it, it was grown up with weeds, wire grass and blackberry briars. A litmus paper test showed that the soil was distinctly acid, a condition that I suspected in advance, as it was a heavy clay soil with poor drainage. The first step, in early October, was to cut and burn all the weeds and rubbish on it. It was then given a heavy coat of air-slaked lime—about a ton for the half acre. The soil was then thoroughly plowed and left to rot the sod through the winter. During the cold weather all the manure I had available was hauled out and spread on the ground. In the spring the garden was cross plowed and harrowed and a portion was designated to the semi field-crops, such as corn and potatoes. The balance was devoted to small garden truck, such as peas, beans, radishes, lettuce, onions, etc. Everything was planted in rows. Beds have become obsolete since the day of wheel hoes, but that is another story, as this is not an article on gardening.

I had saved about half a load of the best well rotted manure that I had and this I used to put in the lima bean hills and around the cucumbers, tomato and pepper plants or wherever I thought an extra feed was required. I also had a barrel of manure water which I used to water the plants that required watering. The potatoes and corn were given a treatment of commercial fertilizer. I used about 300 pounds to a plot, perhaps a little more than a quarter acre in extent. I also bought ten pounds of nitrate of soda which I applied in liquid form; a handful to a watering can of water to the peas and beans. This material is simply wonderful in its effect upon growing plants. It is extremely soluble in water and rich in nitrogen. As a whip to the laggards in the garden it will produce marvelous results. Then perhaps you will ask "why not use it entirely?" The answer is that it is too expensive to begin with and in the second place it contains but one of the three essential requirements in which a soil may be deficient, namely, nitrogen. We must also supply potash and phosphorous by means of stable manure or fertilizer.

Each year I top dress my garden with manure and in the spring buy a bag or two of fertilizer to help out. The result is that I always have a good garden. Perhaps my conditions are not entirely similar to other cases, but the general subject of gardening is quite similar in all cases. We must keep our gardens up to a high standard of fertility to obtain satisfactory results.

There is still another way of adding humus and nitrogen to a poor soil beside adding manure or fertilizer. It is by a process known as green manuring. It is the process by which a farmer plants a crop of clover or cow peas and plows it under. All the "leguminoids" or pod-bearing plants such as peas, beans, alfalfa,

(Continued on page 72)

Madam, you *can* have draperies that neither sunshine nor washing will fade.

Use only Orinoka-Sunfast Fabrics for your draperies and they will never again change color through exposure to the sunlight or through washing. Your assurance of this is the unqualified guarantee which covers every piece of

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GUARANTEED
SUNFAST
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Get it on trial—it's guaranteed. Send for a copy of "Useful Things for the Lawn." It fully describes the "Detachable" Hose Reel and the "Easy Emptying" Grass Catcher for Lawn Mowers and a number of other mighty valuable lawn articles.

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are not the doctored trash so universally sold. Of 1,000 Oriental rugs sold in the American retail markets, 999 are defective, raw, or doctored for the American trade. They are worthless; money thus paid is lost forever—whereas, choice Oriental rugs enhance 10 per cent. annually. Wise collectors know this—my booklet shows their sentiments.

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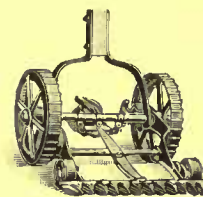
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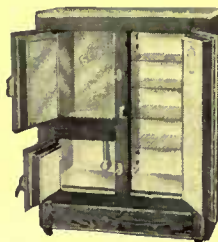


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There are three things that destroy your lawns, Dandelions, Buck Plantain and Crab Grass. In one season the Clipper will drive them all out.

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Health Insurance



should start in the home by using the Leonard Cleanable one-piece Porcelain-lined Refrigerator.

Tested and approved by Good Housekeeping Institute. Don't confuse this with white enamel.

Try your hat pin or knife on the lining. If you can scratch it don't buy it. You can't afford to risk ptomaine poisoning. Ours is real porcelain.

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LEONARD CLEANABLE REFRIGERATOR

Look for the Leonard Window at your dealer's.

If he can't supply you, I'll ship freight prepaid as far as the Mississippi and Ohio rivers. Ten-wall construction cuts down ice bills.

Money back if not satisfied. Style shown above, size 34 1/2 x 21 x 45 1/2, is made in three different casings, viz.: No. 4, polished oak, \$35.00; No. 307, satin walnut, \$41.50; No. 4405, ash, \$28.35. Fifty other styles and prices from \$18.00 to \$150.00, shown in catalogue, all one-piece porcelain lined. Write for it. Also my book on the selection and care of refrigerators and a sample of the Leonard porcelain lining and insulation, all free. Write me personally.

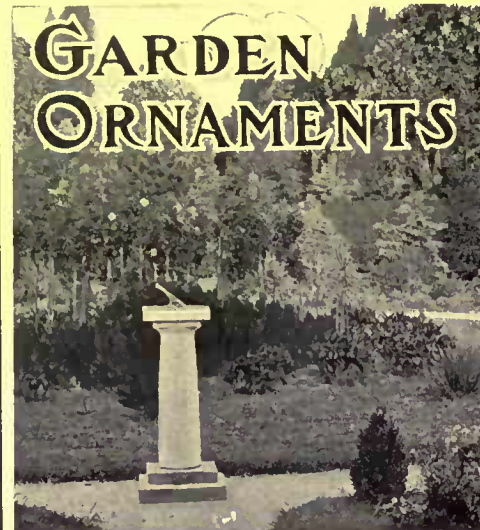
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GARDEN ORNAMENTS



Sundial in the Garden of Mrs. Leopold Stern, West End, N. J.

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Our sundials are designed to harmonize with every type of garden treatment. They are both decorative and artistic. Constructed of marble, stone and Pompeian stone, with dials of hand-chased brass, they are practically everlasting.

Send today for catalogue A, illustrating our models of sundials, benches, vases, fountains, statuary, etc.

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New York Selling Agents - Ricciardi Florentine Terra Cotta

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They contain no rubber, have no disagreeable odor; will not overheat or cause perspiration.

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A postal to the New York Office of B. Priestley & Co., 100 Fifth Avenue, will bring interesting booklet.

(Continued from page 70)

and clover leaf have the unique quality of taking nitrogen from the air by means of colonies of nitrogen fixing bacteria which live on the roots. This is useful to know in cases where we wish to bring up the fertility of a piece of ground without applying fertilizer directly. If we can obtain a good stand of clover and have it plowed under while it is still green we shall add just that much to the fertility of the soil.

The compost heap is an institution which every garden should have. It is simply a scientific garbage heap in which we store all sorts of kitchen refuse, vegetable matter and anything that will ultimately decay and furnish plant food. There are various methods of making compost heaps. The general practice is to mix the refuse with soil or sod and occasionally to add a layer of leaf mold. Another way is simply to dump the refuse into the manure pit. Needless to say a compost heap is not greatly enriched by the addition of old shoes, broken bottles, tin cans or articles of wearing apparel. Neither is it benefited by coal ashes, although wood ashes are excellent. Unless we keep it covered, it may be an incubator for flies to breed and if it is near the house, it may easily be objectionable on account of the odors that may come from it. In its place it is very little of a nuisance if kept covered with sod.

The conclusion of the whole problem of fertilizing is this: Use stable manure if you have it. There is but little danger of using too much. No one would pile it over the ground a foot deep. The danger is that you will not be able to get enough. The market price if you buy it is about two dollars for a two-horse load of well rotted manure. In the absence of sufficient manure, use some complete fertilizer.

If we intend to grow some special crop of fruit on a large scale, we should use a fertilizer to meet its special requirements. The manufacturers will not be at all backward in giving you advice about this. We can also use nitrate of soda to stimulate the growth of things that seem to be backward. We should never use fresh stable manure, as it heats in fermentation and will burn our crops. No amount of soil fertility will take the place of cultivation. In fact a rich garden only increases our fight against the weeds, as a weed is only a plant out of place after all. The richer the ground is the faster they will grow.

An Experimental Year in the Flower Garden

(Continued from page 66)

soon a mass of pink and white daisy-like flowers. There were hundreds of buds when frost became heavy enough to penetrate the light muslin covering. I had bought some of this cloth and torn it into lengths of one to three yards, and saved

(Continued on page 74)

My Coating
is the Best Protection
for Concrete

I want you to know BAY STATE BRICK and CEMENT COATING is being specified by the leading architects and contractors not only as a coating on cement, stucco, and brick surfaces to protect them against moisture, but on high-grade interior work on both wood and plaster.

When you need a coating for cement and want something that will stand up and give protection and durability, also a pleasing finish, use the BAY STATE BRICK and CEMENT COATING, which is the result of research and experimental work for more than a decade. Wherever it is used on stucco, concrete, wood, or plaster, it stands up better than any other. You know how necessary it is to protect concrete surfaces against dampness. My coating is damp proof and gives a pleasing appearance without destroying the texture of concrete, and in addition is a fire retarder.

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PUT UP—A purple martin house AT COST.



And take care of 26 families of these beautiful little birds.

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little neighbors. I ship to bird lovers everywhere. Price 12, n.o. Chicago.

TELL every friend of birds that I have built for them the most unique and attractive hanging WHEN HOUSE they ever saw. Three \$5.25 n.o. Chicago.

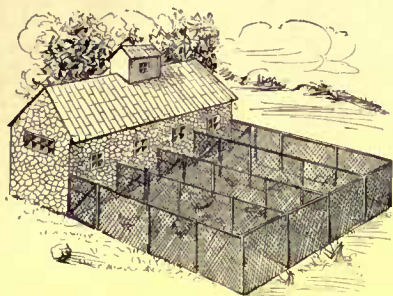
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Do not fail to order one of my hanging WHEN HOUSES.



My WHEN HOUSES FOR WHEN.



CHICKENS come home to roost—but stray a long ways and do a lot of damage between roostings—if not properly enclosed.

Among many designs of American,

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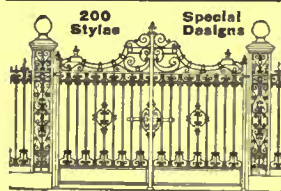
one is the best for *chicken runs*—just as one is best for every other fence purpose.

A line describing your needs and we will send catalog, or our representative with photos and prices.

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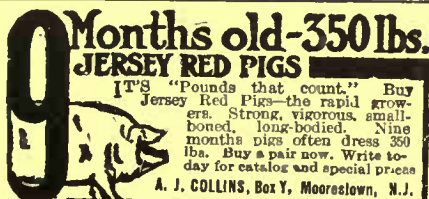
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High Grade Iron Picket and Woven Wire Fence made for all purposes. We also get up original and exclusive designs of Gates, Fences and Railings for anyone wanting something different. Our catalog is free—Write for it. "Prices are lower than ever."

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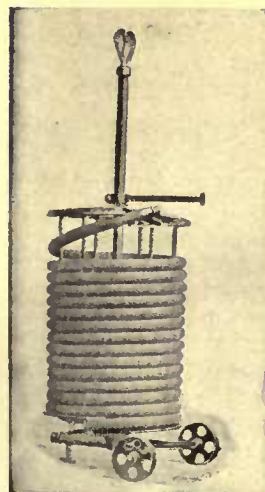
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that stands the test of time. None but pure rubber and best fabric used in its construction. Buy direct and save unnecessary profits.

Price including Nozzle and Couplings, complete, 10 cents per foot net.

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These Shingle Stains are famous for their artistic tone and richness of colors. The colors being absolutely pure, insure extreme durability.

Absolutely free from creosote and all unpleasant odor. Made from pure Linseed Oil and our own Waterproof liquid combination. Sheds water like a duck's back, thereby increasing life of shingles fourfold.

Write for cabinet of artistic colors, free. Paint dealers will fill your orders.

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VERY many places, otherwise beautiful, are marred by an unsightly outlook. Is there an unsightly view from your home?

Why not hide it by planting Moons' Trees and Shrubbery?

This illustration shows what may be done to cover up such defects. Here a swamp has been entirely screened. We furnished the shrubbery eighteen months ago, that now so effectually hides the ugly spot. This screen not only beautified the property but added to its value.

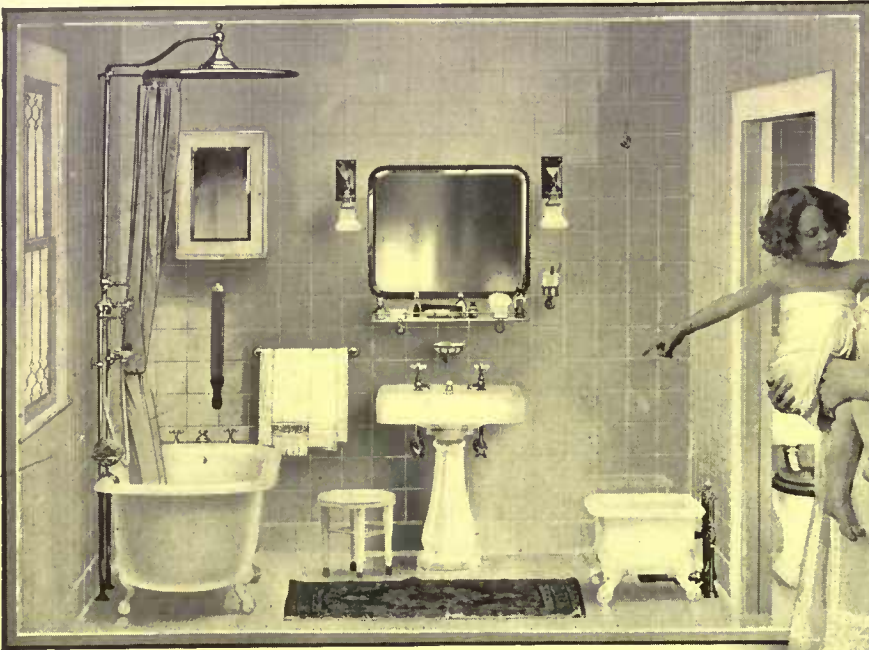
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Let us help you with a screen planting that will hide the unsightly views from your house. Our nurseries—400 acres in extent—have 2,500 different varieties of trees and shrubbery. Behind each is the experience of 40 years and a high reputation for quality nursery products.

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"Standard" GUARANTEED PLUMBING FIXTURES

CULTIVATING the desire for cleanliness among children used to be difficult. Since the advent of "Standard" Sanitary Bathroom fixtures, habits of cleanliness have not needed cultivating. Their attraction creates the desire to bathe. The practical utility, the beauty and the enduring quality of "Standard" fixtures makes them an everlasting joy to every generation in the home.

Genuine "Standard" fixtures for the Home and for School, Office Buildings, Public Institutions, etc., are identified by the Green and Gold Label, with the exception of one brand of baths bearing the Red and Black Label, which, while of the first quality of manufacture, have a slightly thinner enameling, and thus meet the requirements of those who

demand "Standard" quality at less expense. All "Standard" fixtures, with care, will last a lifetime. And no fixture is genuine *unless it bears the guarantee label*. In order to avoid the substitution of inferior fixtures, specify "Standard" goods in writing (not verbally) and make sure that you get them.

Standard Sanitary Mfg. Co. Dept. 40 PITTSBURGH, PA.

New York 35 W. 31st Street	Nashville..... 315 Tenth Avenue, So.	London.... 53 Holborn Viaduct, E. C.
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Philadelphia.. 1128 Walnut Street	Montreal, Can..... 215 Coristine Bldg.	San Francisco.. Metropolis Bank Bldg.
Toronto, Can. 59 Richmond St., E.	Boston..... John Hancock Bldg.	Washington, D. C..... Southern Bldg.
Pittsburgh..... 106 Sixth Street	Louisville..... 319-23 W. Main Street	Toledo, Ohio..... 311-321 Erie Street
St. Louis..... 100 N. Fourth Street	Cleveland..... 648 Huron Road, S. E.	Fort Worth, Tex... Front and Jones Sts.
	Hamilton, Can..... 20-25 Jackson St., W.	

(Continued from page 72)

many of my flowers until freezing weather.

Another flower that gave us especial pleasure was the dahlia. They were beautiful not only individually, being soft pinks and yellows, but also because of their profusion. Blooming with the cosmos, vying with them, they yet ruled the garden during their period of bloom. This would have been much longer had I not too religiously followed directions in a newspaper to pinch off all buds appearing in July. There were dahlias all around me when my first blossoms came. This year there will be no dis-budding.

Among the perennials, the Iris was much enjoyed. It comes so early and lasts so long, each stalk producing so many flowers, that it has endeared itself to the family. I found that as the early hardy flowers came into bloom, each was welcomed with the promise of an increase in its present area, though it meant the encroachment upon our already too small lawn. I must confess that the first foxgloves and Canterbury bells I ever saw bloomed in my garden this spring. These old, old flowers were new to me and so interesting, particularly the foxgloves.

No flowers in my garden were so enthusiastically admired as the dahlias and cosmos. I think it was in part due to the number of plants and consequent luxuriance of the display in flowers. There should, I know, be a sufficient mass of one kind to get its full beauty. It is in this, I think, that the amateur in a small garden often fails. A few thin plants of various flowers, more or less isolated, too often form the sum of such a garden. I planted largely for color effect and in the very small spaces devoted to the several colors, I know I have a greater variety than I should. I am becoming familiar with the newer flowers and renewing my acquaintance with the old, improved almost beyond recognition, such as the petunia, snapdragon, cornflower, plummy cocks-comb and others. Next year I shall reduce the variety of annuals, having larger quantities of one kind and changing from year to year.

The Utility Garden

(Continued from page 16)

be obtained before the fruit trees shade the ground sufficiently to render the strawberries unproductive. Even the tennis court in this particular garden was surrounded by a high wire trellis and covered with dwarf fruit trees.

When laying out the vegetable garden, plan to get all of the plants of the same family in the same section of the garden. For instance, the turnips, cabbages and other members of the cabbage family should be planted in close proximity. The following year a different family or class of vegetables can be grown on this land. It is necessary to rotate crops in this way

(Continued on page 76)

Burpee's Seeds Grow!

THE truth of this famous "slogan" is attested by thousands of the most progressive planters throughout the world—who rely year after year upon Burpee's Seeds as The Best Seeds That Can Be Grown! If you are willing to pay a fair price for Quality-Seeds, we shall be pleased to mail, without cost, a copy of Burpee's Annual for 1912. Long known as "The Leading American Seed Catalog," this Bright New Book of 178 pages tells the plain truth and is a safe guide to success in the garden. Do you want it? If so, write today! Address

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World's Choicest Nursery and Greenhouse Products

SPRING PLANTING

We invite everybody interested in improving their lawns and gardens to visit our Nursery to see our Products growing. This is the most satisfactory way to purchase. We shall gladly give our time, attention and any information desired. Our Nursery consists of 300 acres of highly cultivated land and 500,000 square feet of greenhouses and storehouses, in which we are growing Nursery and Greenhouse Products for every place and purpose, the best that experience, good cultivation and our excellent facilities can produce, placing us in a position to fill orders of any size.

ROSE PLANTS. We have several hundred thousand that will bloom this year. Order now from our Illustrated General Catalogue for Spring delivery.

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HARDY OLD-FASHIONED PLANTS. We have thousands of rare, new and old-fashioned kinds. Special prices on quantities.

DECIDUOUS TREES AND FLOWERING SHRUBS. Many acres of our Nursery are planted with several hundred thousand Ornamental Shade Trees and Flowering Shrubs. It is worth while to visit us and inspect them.

TRAINED, DWARF AND ORDINARY FRUIT TREES AND SMALL FRUITS. We grow these for all kinds of fruit gardens and orchards.

HEDGE PLANTS. We grow hundreds of thousands of California Privet, Berberis and other hedge plants adapted for all parts of the country.

OUR NEW GIANT FLOWERING MARSHMALLOW. Everybody should be interested in this Hardy New-fashioned Flower. It will grow everywhere, and when in bloom is the Queen of Flowers in the garden. Blooms from the early part of July until the latter part of September.

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We have a number of Superintendents and Gardeners registered open for appointment. Names will be given upon application. The popular use of our World's Choicest Nursery Products is due to the pleasing results they have given our patrons.

VISITORS, take Erie Railroad to Carleton Hill, second stop on Main Line; 3 minutes' walk to Nursery.

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FIELDS OF PINES IN OUR NURSERIES.

EVERGREENS, CONIFERS AND PINES. More than 75 acres of our Nursery are planted with handsome specimens. Our plants are worth traveling any distance to see.

BOKWOOD AND BAY TREES. We have thousands of trees in many shapes and sizes. **PALMS, DECORATIVE PLANTS FOR CONSERVATORIES,** interior and exterior decorations.

HARDY TRAILING AND CLIMBING VINES. We have them for every place and purpose. Ask for special list.

ENGLISH POT-GROWN GRAPE VINES. For greenhouse cultivation.

BULBS AND ROOTS. Spring, Summer and Autumn flowering.

LAWN GRASS SEED. Our Rutherford Park Lawn Mixture has given satisfaction everywhere.

PLANT TUBS, WINDOW BOXES AND GARDEN FURNITURE. We manufacture all shapes and sizes.

ELECTRIC LIGHT

IS ESSENTIAL TO THE WELL APPOINTED COUNTRY HOME

It not only adds to its comfort and convenience but gives that added feeling of security which no other form of illumination permits.

A touch of a switch floods the house or any portion of the ground with light—No hunting for lanterns on dark nights when you wish to investigate a suspicious noise in the stable or chicken house;—Prowlers and tramps keep away from electrically lighted houses and grounds. A private electric lighting plant consists of a small gasoline engine, dynamo, switchboard and a battery of

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With this outfit—day or night—your light is always available. It is necessary to run your gasoline engine for a few hours only to secure this 24 hour service.

Send for our book "Country Electric Lighting Plants" which gives full information about these plants. A postal card to the nearest Sales Office will bring it.

THE ELECTRIC STORAGE BATTERY CO.

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The Most Complete Collection

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THE LARGEST COLLECTIONS

Seeds, Bulbs, Plants
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We want you to know more about our collection, and we make this offer to mail to any Post Office in the United States.

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Your selection as to whether they shall be Cactus, Decorative, Peony - Flowered, Show or Single. Our selection as to varieties, all with correct names, mailed to you for \$1.00.

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LAWN AND GARDEN**FOTTLER-FISKE-
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are famous for their wonderful perfection and durability. Such lawns may be produced in this country if

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is used. No weed seeds or coarse grasses. The result of centuries of selection. Hardy and beautiful in color and texture. Send for directions—How to Seed and Keep a Beautiful English Lawn. Free.

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Established at Leicester, England, in 1800.

The Special Fertilizer for the Garden and
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Composed only of the best qualities of Rose Growers' Bone Meal, Pure Nitrate of Soda, the Best Peruvian Guano, Pure Sulphate of Ammonia, Pure Sulphate of Potash and high grade Gypsum. Chemically combined in the proper proportions for the best results. Feeds all parts of the Plant. Renovates worn-out and poor soils.

The result of 25 years of experimenting on Gardens and Lawns. Send for folder that tells why and how. Free.

Barwell's Agricultural Works
Madison & Sand Sts., Waukegan, Ill.
Established at Leicester, England, in 1800.

(Continued from page 74)

so as to avoid as much as possible trouble from plant diseases. This is particularly true of the cabbage tribe, for if grown several years in succession in the same ground the disease called club-root is liable to destroy all chances of a crop. In the vegetable garden everything should be planted in straight rows; this will facilitate cultivation. Where such things as lettuce, radishes and onions are grown in beds, it means a lot of tedious work on one's hands and knees to keep them free from weeds. Plan to get two crops of vegetables from the same piece of ground during the season. This can be done by having such late crops as late cabbage, cauliflower and winter celery follow the early potatoes and peas. Radish and lettuce seed should be sown once a week in order to supply a constant succession.

In planting the vegetable part of this garden, I would make a row across the yard about three feet from the strawberries. Half of this row I would put in asparagus and the balance in rhubarb, setting the rhubarb plants about four feet apart; the asparagus three feet. As I am very fond of corn I would allow two rows across the garden—one hundred feet—for sweet corn. I would use an early variety, such as Golden Bantam, making successive sowings, planting about thirty feet at one sowing, and making the sowings about two weeks apart. The hills of a dwarf variety, like Golden Bantam, should be about two feet apart. Two rows of peas would be none too much for me. One row across the garden—fifty feet—would be devoted to dwarf beans. I would make two sowings of these, twenty-five feet at a time. I would have another row of pole beans, making them about half lima and the other half of some variety like Kentucky Wonder. These do not come into bearing quite so early as the dwarf beans, but if the beans are kept picked they will bear until frost comes. Another row would contain ten feet of Swiss chard which will furnish a constant supply of fresh beet "greens" all summer. The balance of the row would be equally divided between beets and carrots.

A dozen tomato plants trained to stakes will furnish all the fruit a small sized family will need. Set the plants three feet apart. The balance of the row I would put to peppers two feet apart. In the next row I would put another half dozen peppers and fill it out with cabbage and cauliflower. The balance of the space I would devote to making successive sowings of radishes and lettuce. This amount of space, thirty by fifty feet, is capable of producing outside of potatoes practically all the vegetables that a family of three or four will need.

The small fruits, raspberries, blackberries, gooseberries and currants, may be grown as bushes in rows, or may be used singly just as one would place a shrub.

(Continued on page 78)



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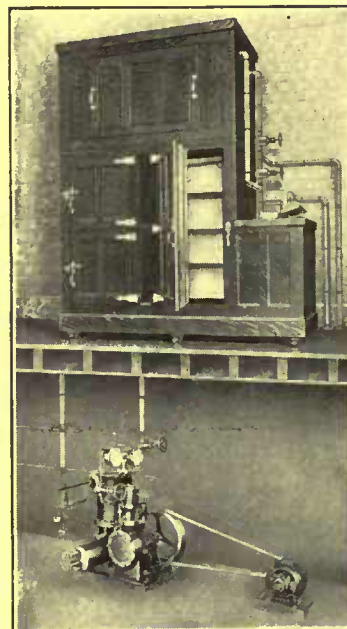
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(Continued from page 76)

Surely there are few of the purely decorative shrubs that can surpass the currant.

With these suggestions, then, let us attempt to get rid of some ancient conventions. There is no reason to think that the fruit garden need be relegated to the kitchen end of the house. Neglect for a while the fruit culturists' rigid rules for economical arrangement, and as you order your trees and bushes proceed as though they were shrubs for decorative purposes only; the cultural requirements can be complied with as necessity arises.

One may proceed with the landscape features in mind and obtain beautiful results, with the added value of fruits and berries. Perhaps there is a long stretch of sunny, bare wall that needs some covering to tone down its harsh lines. A sharp corner of the house seems to cry for softening with a shrubbery group. The pergola out yonder is naked of vines, and the summer-house, arbor-like in structure, has the same necessity. The corner of the porch, too, might be vine clad. If yours is to be a utility garden, you will have to give up the idea of having many beds, but there are useful plants to fill one or two.

Take the catalogue, then, and looking among the descriptions of various fruits, choose those of plum, peach, apple pear and cherry that please you most. Then treat them as though they were simply flowering shrubs. There is no reason why they can not be arranged as beautifully as the ordinary shrub, and at the same time yield you good return; nor need you violate any rules for placing them.

You may use peach trees trained against an ugly wall, if it faces south, and you will find the fruit is good and that the trees take up a minimum amount of room. Two of the photographs accompanying this article show an attractive way of using trained fruit trees. In the one at the left-hand side of page 15, the apple trees growing against the simple lattice work make a display it would be hard to obtain from other sources. In the illustration beside it, the vast, bare expanse of wall will soon be rendered beautiful by the fruit trees that are being trained upon a network of heavy wire spread before the surface of the wall.

Our general advice would be for the dwarf fruit tree. These little fellows seem to give as fine results as the old-fashioned type, and bear fruit apparently out of all proportion to their size. If the place is one of large extent, the larger apple trees can be grouped on an expansive lawn, showing wonderfully well in the spring, and making a pleasant, bordered retreat during the summer and fall when the fruit is ripening. There is always a place for shaded woodland, and the orchard might just as well supply this.

The other requirements of shrubs and vines can likewise be filled as suggested above. There is no reason why one cannot

(Continued on page 80)

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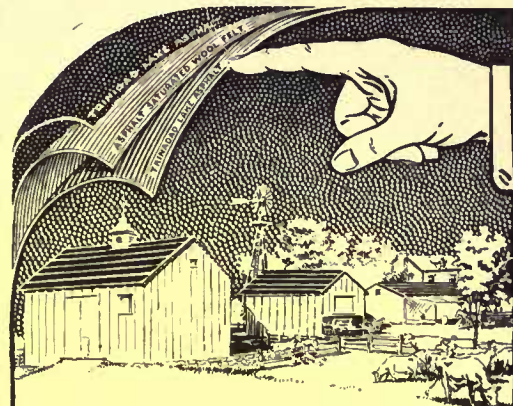
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(Continued from page 78)

place the small fruits according to the same general instructions that have been given for planting the shrubby borders, or general arrangement of shrubs; that is, of course, with certain limitations. The grape-vine is ideal for arbors and may also be trained for porches. The small fruits may often be trained up against a flat wall in much the same manner. Indeed, it is only when such treatment is used that one appreciates the beauty of the flowers of such plants as the black-berry, for instance. In general, then, the idea is to plant your garden as you have been advised, laying most stress upon shrubs, vines and trees, but substituting for the merely decorative ones those that are fruitful and beautiful as well. There is no reason why you should forego entirely the pleasures of hardy bloom in beds, but one should restrict their use as much as possible wherever berry, fruit or vegetable may be used instead.

A Garden of Yesterday

(Continued from page 13)

for him to get wet, and there are so many other things I would like to show you. I'm sorry you can't come.

On one table there is a picture of Grandfather. Grandmother always dusts that table. She puts fresh flowers there, too, every morning in a little vase. Then she picks up the picture and kisses Grandfather and I don't talk to her.

Oh, Reader—look in my eyes—do you understand?

I am not a little girl! It has all gone—the old garden, the days of play and nights of dreaming through insect song, and Grandmother has no longer need of Grandfather's picture.

Look quickly down the lane of Long Ago if you would see a little girl running hard toward a white house with dormer windows. That is when she would leave her own home to come on one of those visits. The stage lets her down at the big gate. Then she runs past the little whispering grove, past the two horsechestnut trees that hold the hammock, past the circle where the trumpet creeper climbs high.

The little girl is almost out of breath. The door of the house opens. An old lady comes out and stands on the porch. The curls each side of her face are twilight grey and the little girl's curls are yellow in the morning of life. There is a rush into open arms—"Oh! Grandmother—I've come!"

Shut the double door very gently. Lead other little girls' feet of your guiding into the garden of a Now, that perchance, some time in the years to come they may lean out of the window of remembrance and say "Make me a child again."

When the fragrance of the Past steals back as from a faded rose, how sweet. But if not—

Whose the reproach? Whose the garden spot, unplanted?

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Fencing In the Small Flock.

PERMANENT fences make it difficult to keep the ground in the poultry yard free from taint, but temporary ones made of poultry wire stretched from posts driven into the ground only far enough to hold the weight are better, because they can be removed once or twice a year and the ground ploughed. Yet many people are so situated that a permanent yard for their hens must be built. In that case, it becomes necessary to spade up the ground several times each season, getting as close to the fowl as possible. It is an excellent plan to use alternate yards, if possible. While the fowls are running in one yard, the other can be sowed to oats, rye or rape.

The permanent poultry yard for a small flock should have a fence of two-inch poultry netting with boards along the bottom two feet high. No railing should be placed along the top, or the hens will fly out, as it gives them a secure support to rest upon. For the smaller breeds the fence should be six feet high. Such a fence will confine the American breeds like the Wyandottes and Plymouth Rocks, while the heavier fowls like the Langshans and Brahmas will seldom fly over a four-foot fence. On the other hand, it is often difficult to confine the light breeds like the Leghorns by a fence even six feet high. If the yard is small enough it may be entirely covered with poultry netting, but a less expensive plan is to nail cleats to the tops of the posts and extending a foot into the yard space. One or two wires or a strip of poultry netting may then be stretched on these cleats so that when the hens fly up they will be forced back into the pens. When breeds like the Houdans and the Polish, which have large topknots, are kept, there will be little need of a high fence, although these birds are of the lighter varieties; their crests prevent them from looking upward easily, so that they are not often troublesome. In the case of all breeds, much depends upon the early training. If the chickens are yarded where there are trees with low branches or other objects upon which they can easily fly, they often acquire a habit which persists as they grow to maturity, whereas birds which never become accustomed to flying, occasion little trouble in this respect at any time. Of course, the larger the yards, the less likelihood is there of the hens seeking to escape. If they have roomy yards, with an abundance of green food, they have less temptation to wander.

It is a curious fact that when a single hen escapes, she immediately finds that she wants to get back into the yard with the other birds. Some poultrymen make this easy by placing a small gate in the fence, so arranged that it will swing inward only, being closed by means of a light spring or its own weight. As the hen moves along the fence she finds a small opening and tries to get through. The pressure which she exerts causes the gate to open, and the hen finds herself back in the yard again.

The English Setter

[This is the third of a series of articles pointing out the chief characteristics of the different breeds of dogs which are especially adapted to the country place. The first one, which appeared in the February number, dealt with the Shetland pony; in the April issue the subject was the Scotch collie.]

In selecting a dog for the country place there are three special qualities to be sought which, unfortunately, all breeds do not possess. These are hardiness, companionship and trustworthiness, and to his credit be it said, the English setter embodies all of these good points as well as many more which close association with him will bring to light.

Primarily, setters are of course hunting dogs, and in that capacity they find their most congenial and successful occupation. But there is no reason why, with ordinary care and an occasional long run in the woods and fields, an English setter should not be absolutely healthy and a source of constant satisfaction to his owner, even though the latter may lack the opportunity or inclination to go shooting. It is not the case, as many people seem to believe, that a dog which has been trained and used for actual field work on birds is in any degree spoiled for ordinary life about the home. Among the most satisfactory and likable dogs we have ever known were setters which during the shooting season were used actively in the field, and throughout the balance of the year filled most acceptably the place of the ordinary general purpose dog. The character of a good specimen of the breed leaves little or nothing to be desired; he is full of intelligence and common sense, learns readily, has a kindly though courageous disposition that makes him an ideal dog about the place or on walks and tramps afield, and forms very strong attachments to his master and other persons with whom he may come in frequent contact. In fact, we doubt if there is any other breed that develops a stronger and truer love for man, or more quickly appreciates and repays wise, kindly treatment.

As a watchdog the English setter ranks high, and his reliability of disposition makes him a safe companion for children. There is about him nothing of that semi-treacherous meanness which makes certain other breeds so undesirable, and his general air of big-heartedness is sure to endear him to all who can recognize a good dog when they see one.

Before turning to the physical characteristics of the breed, a few remarks as to care and general treatment may not be amiss. In the first place, give your setter as regular and systematic exercise as possible. This is only fair to the dog in order to keep him in good condition and satisfy his natural fondness for plenty of wholesome work in the open air. On a large country estate this matter of exercise is

(Continued on page 66)



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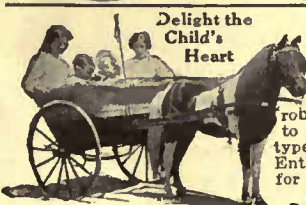


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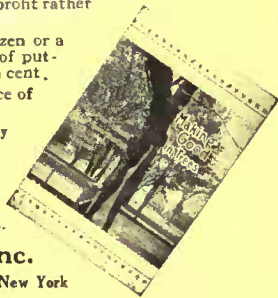
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International Rose Exhibition
Paris, June, 1911

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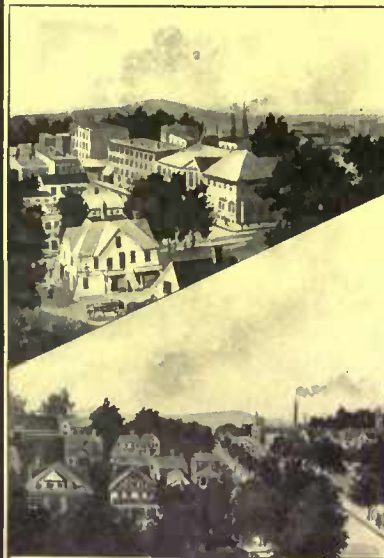
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But as magazine number one has drawn the greatest number of traceable replies, it is given the preference over the others. Let us suppose for a minute that the reader has no special wish to help along the publisher's cause. The reader has paid for his subscription; he owes the publisher nothing; and it is some little trouble to explain to the advertiser that he saw his offer of an aeroplane for \$327.62 in the *Sticky Fly Paper*.

Such a citizen of the United States is not a friend of the economic development of his country. The financial stability of the land depends on the successful and economical marketing of goods by the merchant. To tell a man that he has secured your business through advertising in a certain magazine or newspaper, is economy. It shows him the direct result of his expenditure, and enables him to continue to spend his money intelligently. And for every intelligent spender, the country is just that much better off. We can all help.

THE TRUTH ABOUT THE FARM

Perhaps you have been reading a story in *House and Garden* about a man who was heartily tired of city life and went to the country to become a farmer. It's a little different from any of the articles, but is very interesting, and it gives you a picture of rural life, besides showing the practical side of the undertaking. We were talking with this man a while ago, and he has now become a landed proprietor of some means and has made a great success of his work. Best of all, he simply bubbles over with enthusiasm. We are very glad that we finally induced him to write his experiences; he has given them in such a straightforward manner that he is helping a great many to get a clear idea about what this "Back to the Land" movement really means. In some of the forthcoming numbers there is a mine of information so vividly presented that you will surely want to see it.



There is another such enthusiast, John Anthony by name, who went into New England and made a go of fruit-growing. He is creating a big stir throughout the country because he has introduced business methods to apple culture with telling effect. He told his story in the March and April magazines, but we are going to hear from him again soon. The only thing we have against Anthony is, that despite his hard work—and hard it is—he is having such a thoroughly good time that he makes us very envious. Here is something from one of those letters of his—they don't come too frequently, for they make us feel as if a little bit of fresh country air had blown into the office over the dusty roofs.

"When real folks want to try farming, I will be found ready to help when I can. Only they want to be sure about it. Few folks would like the sort of work I have been luxuriating in lately. Sawing wood all day long is the easiest job we get to do. My assistant and I are keeping bachelor hall until the arrival of his wife. Meantime we keep house, cook the bulkiest meals you ever heard of, and do a full hard day's work in the orchard besides. The snow is deep and soft and wet. The sun, reflected from the snow, is more blistery than any of the Florida article. Yet—it is the only real fun that I ever ran across.

"Already we have combined the good things of the city and the country. The food is of the latter (raised on the place) but the preparation and serving is of the former. Cream we have of the sort that town folk don't know exists. Syrup that was sap in the trees but yesterday. Potatoes, beets, parsnips, eggs, cream cheese, butter, all from this ground. But I easily get garrulous."

If this itching to be back in the country comes over you, and you are downright earnest about it, write in and we'll put you in touch with John Anthony, for there is not a better man to help you.

MORE THAN FIVE MILLION SPADES

Would you believe that during this month that the *House and Garden* Gardening Guide went through the mails that there were over five million starting to dig gardens in the United States? With equal conservatism we can say that *House and Garden* is guiding the course of sixty thousand of that number, and they are not merely turning up angle worms, either. From the letters we read and the people we see, some of the finest gardens in the land are developed from the pages of this magazine. We want to do some proselyting and you who are succeeding should help by sending in the information you have dug up.



Blair Joekel, author of "Windmills and Wooden Shoes," "Planning a Trip Abroad," etc., is as much at home in the saddle of the Texas broncho as he is in a publisher's office—sometimes a little more so



Here are Mr. and Mrs. Frank VerBeck riding behind their pet donkey, "Gunja," in Bermuda. Mrs. VerBeck is better known as Hanna Rion, and is the author of "Let's Make a Flower Garden" and "The Garden in the Wilderness," both charming outdoor books



Lewis Gaston Leary in the mountains of Palestine, a country which he knows as well as he knows his home town. He is following up his "The Real Palestine of To-day" with another ten-strike, "Andorra, the Hidden Republic"



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COVER DESIGN: HELICHRYSUMS

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CONTENTS DESIGN: *Photograph by Nathan R. Graves*

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HENRY H. SAYLOR, EDITOR.

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NEW YORK CITY

Robert M. McBride, President; Condé Nast, Vice-President; Robert F. MacClelland, Secretary; Henry H. Saylor, Treasurer. Published Monthly. 25 cents per Copy.
\$3.00 per Year. For Foreign Postage, add \$1.00; Canadian, 50c. Entered as Second-class matter at the Post-office, New York, N. Y.



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XXI

May, 1912

NUMBER 5



The swarming cloud of bees collected upon a small branch and soon were a great mass of squirming bodies, crowded one on top of another

A Beginner's Experience With Beekeeping

BY D. EVERETT LYON, PH.D.

Photographs by the Author and Ella M. Boulton

IN common with others similarly circumstanced, I had not been long in my new suburban home before I found myself almost unconsciously beginning to observe the many phases of plant, insect, and animal life with which the countryside abounds.

This observation was not that of an advanced student of nature, but rather made up of merely casual glances.

Among the first

things that attracted my attention was the marvelous energy and activity of a mass of honey bees that made the air resonant with their song as they cheerfully gathered the nectar from a gorgeous basswood tree that lured them to the golden sweets of its abundant bloom. With lightning speed the bees rushed through the bloom of what I afterward learned was a favorite



The branch is broken off and the bees are gently shaken on the ground

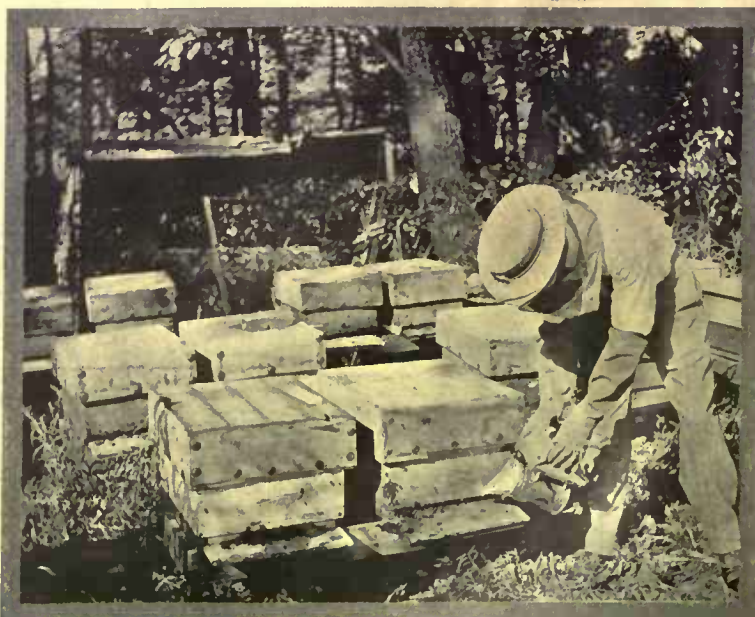


The lower frame contains the brood cells, and above are the collecting boxes

(11)



Where the grass is rank and tangled, a cloth will prevent the bees from being scattered



A few puffs of smoke at the entrance to the hive will subdue the bees and enable one to handle them with impunity

source of supply, for if there is any one blossom that the bees love above another it is the blossom of the basswood, in quest of which they have been known to go as far as eight miles.

After being fascinated for an hour or more I returned to my home and spent the rest of the day in reading several books on bees and beekeeping, and was simply amazed to find that in addition to being invaluable as cross fertilizers of fruit blossoms, they could be made exceedingly profitable to their owners in the remarkably large crops of honey they would produce.

My reading seemed to open before me a vista of new possibilities. Though I had reaped splendid returns from my garden of which I was pardonably proud, I had looked about for some other profitable hobby that would take but little of my time, and had thought of chicken raising, and even stock raising, but after careful consideration I decided against both, the former being too messy in the necessary work, and the latter a little too extensive for the limited ground that surrounded the house in which I lived. Beekeeping remained, and the idea appealed to me.



The super containing the collecting boxes for the honey is set above the box which contains worker cells

I learned that little space was required for a few hives, and that beekeeping was a possible success even in the hands of a novice. Bees are, according to statistics, the most profitable live stock that can be kept, as, unlike all other stock, they do not require constant feeding and attention, but gather their nectar from the bloom that others than myself have raised. I retired that night with the avowed purpose of "taking a flier in bees" even though my apiary should only boast the modest number of two hives as a beginning.

With the bee fever in advanced stage I began to look about and discovered one dealer who offered to supply a very complete outfit. It consisted of one hive filled with all of the storage chambers ready for work, and another hive empty but otherwise complete, to receive the swarm that was sure to and which actually did come out in June.

Then there was the smoker with which to subdue the bees for handling. This was an ingenious and interesting little tin device to which was attached a bellows and in the furnace of which dried leaves or pieces of rotten wood were to be burned to secure the necessary smoke to render the bees tractable, and prevent my being stung. It certainly produced smoke in ample quantities.

A pair of bee gloves, a veil, a tool with which to pry out the frames and a special trap to enable me to take out the honey without disturbing the bees completed the outfit, and the cost of the entire plant was but the small sum of \$30, which, by the way, the bees more than paid back in honey that season.

The hives were double walled ones with a packing of chaff between the outer and inner walls to keep the bees cool in summer and reduce the tendency to swarming. This acted in winter as a perfect protection from the cold and enabled me to winter the swarm out of door without fear of loss.

When the hives arrived by express the swarm was confined in the hive by a frame covered with wire cloth that was nailed to both top and bottom of it.

Donning the bee gloves and veil, and with the smoker going merrily, but with many misgivings and considerable timidity, I prepared to take off the screens and liberate the bees, first putting the hive bottom-board in place.

Fortunately I had secured the well-known Italian bees noted for their remarkable gentleness, and this fact rendered the work exceedingly easy, as it was but the work of a moment to puff a little smoke down among them through the screen and with a large screw driver to pry off the screen.

Not a single bee ventured to sting, and I afterward learned that their great buzzing was not a sign of anger but rather a plea for liberty that they might hie themselves away to the fields in quest of the fruit bloom. The trees were now in full blossom, as the bees were bought the early part of May. Incidentally this is the best time of the year in which to make a start.



A well-filled frame with bees clinging to the comb

The hive was set out on the lawn in the rear of the lot on which my dwelling stood, but I was assured that any favorable location in an orchard, or even out in the sun would be satisfactory, if I were careful not to place them where they would be too close to the house or the stable—fifty feet away will be a good average. The super was placed upon its bottom-board, the hive was tiered up with several of the storage chambers that accompanied it and let several days pass in order that the bees might readjust their house-keeping, and of their enforced detention in the hive had become realized.

By morning everything was normal, and with sentinels posted at the hive entrance, and with bees going and coming, the incoming ones laden with pollen and honey, things were working as nicely as though the colony had not taken a 100-mile journey by express.

The hive proper was nearly square, made of clear white pine nicely painted white, and on the upper inside ends of it was nailed an iron cleat from which hung the brood frames, ten of which filled the hive.

These frames were made self-spacing by a device on the ends so that when placed their combs would be just the right distance apart. They were about 19 inches long and about 10 inches deep; each was filled with a perfect comb of the previous season's building in the hands of their former owner, and in the cells of these combs was brood in all stages of development from the tiny white egg a day old, on through the more advanced larvae or brood, that looked like so many big grub worms, to the brood that was capped over and ready to hatch.



One of the brood frames as it appears while the bees are building their brood cells

filled with ripe honey, with a sprinkling here and there of cells filled with pollen which the adult bees mix with honey as a food for the growing grubs, and this condition was characteristic of the entire ten frames with possibly the exception of the frames at the sides of the hive. These two frames showed a preponderance of honey rather than brood and pollen.

The outside appearance of the hive was similar to that of a square box well put together and nicely painted, with a separable bottom board and lid. All of the parts of the empty hive to be used for hiving prospective swarms were interchangeable with the other.

The storage chambers were only about half the depth of the hive body proper, and hanging from its inside end cleats were holding-frames in which were placed little wooden sections or boxes 4 x 5 inches. These had little strips of wax in the tops of each to tempt the bees to work in them. As soon as each of these little boxes was filled with a nice comb of honey it was removed, and other empty boxes were placed in the same spaces to fill the vacancy made by the removal of the completed ones.



The super is removed and with a soft brush the bees are swept off for examining the frames

When the storage chambers were in place the lid of the hive was placed on top of the whole and the bees left to themselves to carry on their work.

Occasionally (every few days) I would lift up the lid and, puffing a little smoke down to quiet the swarm, I would peep in, to see how they were getting along, as I was quite anxious to produce a crop of honey. About June 20th I was rewarded to find that almost all the chambers were full of honey that almost uniformly weighed a pound for each box.

I noticed that for several days many of the bees were in the habit of clustering about the entrance of the hive, and in fact a great ball of them about the size of a large cocoanut persisted in staying out there over night. Upon referring to the beekeeping books I learned that this was their method of notifying me that they were about to swarm, and I must confess that I was greatly excited at the prospect, for up to this time I had never seen a swarm come out, and I read everything on the subject of properly

(Continued on page 68)



The beekeeper's outfit includes the veil fastened to his hat, the gloves, and the smoker. This view shows a spacing of the frames



Among the most hardy blooms in the fall garden are those of the chrysanthemum. To-day there is an infinite variety to choose from and many combinations of brilliant colors

What to Plant for the Fall Garden

YOU MAY BE MOST SUCCESSFUL WITH YOUR FALL GARDEN IF YOU PREPARE FOR IT NOW—THE IMPROVED AUTUMN FLOWERS OF BEST COLOR, FORM, AND HARDINESS—HOW TO CARE FOR THEM

BY D. R. EDSON

Photographs by Nathan R. Graves



The improved cosmos, Lady Lenox, is an earlier sort

WHY is it that most people take it for granted that the fall aspect of the grounds and garden must be a melancholy one? That all things must be dead or sere and decaying? Now what a mistake this is. In reality the fall is one blaze of vigorous color until frost, and if we are thoughtful now, we may find that our fall garden is the most beautiful of all our planting year. Most of the finest summer flowers are gone, but salvias, cosmos and dahlias are here for the early autumn days, and there are other hardy and beautiful blooms that flaunt their colors in the very face of frost.

I have mentioned salvias. The scarlet salvias have always seemed to me pre-eminently autumn flowers. They afford that unstinted profusion of flowers and boldness of color which harmonize with the spirit of the season and are among the most desirable late flowers.

The original scarlet sage (*Salvia Splendens*) is still one of the best for furnishing a mass of color in the fall, although the newer Bonfire gives a more vivid effect, as it grows more compactly, and the flowers are held above the foliage more distinctly. Unless height is a desideratum, as in planting along a fence, or as a background for some lower growing flowers, I like Bonfire better.

Of late years, the flower venders always have salvias blooming in pots, ready for the garden. But for the fall garden, sowing out-of-doors, in a sheltered, sunny place, does very well. But you must wait until it is time to plant corn, for the salvia seedlings love warm weather, and without it will sulk and do nothing. Salvias are frequently used as borders for beds of taller flowers, and for this purpose the dwarf growing sort, "Zurich," is better; but it has always seemed to me that using salvias in this manner is like putting gilt and jewels on one's picture frames; it upsets the attention and creates a discord.

The dahlia is really a fall flower, too, although not at all frost proof. These flowers reach their full glory only at the end of summer. For years the dahlia enthusiasts have been working overtime. Not only have they, through their special society done much to make this worthy flower more popular, but innumerable new varieties have been developed and introduced.

Not only is there an endless number of varieties, but the *types* have grown quite numerous; the cactus, giant cactus, fancy cactus, show, decorative, fancy, peony-flowered, century, collerette, and pompon, all being quite distinct in form or marking, although there seems to be yet not a little confusion over the classification of individual sorts. That, however, does not interest me; my

botany has not had the dust blown off its top in years. I cannot advise you what sorts to plant for your fall garden—they all do well with a little care and plenty of food. Perhaps my choice would not please you at all, but personally, the cactus and peony flowered sorts are the only ones I care for, with maybe just a few of the grotesque “colletettes” and the miniature pompons. I like the stiff, perfectly rounded “show” type although it is heavy and commonplace. Yet I know: following my example, try things out for yourself, for it is your own garden, not mine, that you want to plan.

I prefer, too, in dahlias, the solid and decided colors. I mention a few of the older sorts which have long been, and remain, my favorites. Kriemhilde is a beautiful, brilliant pink with a light center. Standard Bearer, a fine flaming scarlet. Mrs. Henry R. Wirth is similar to the above, and even better. Pius X is a splendid white, of great size. Countess of Lasdale, another fine pink, but entirely distinct from Kriemhilde. Roland von Berlin, a fine red. J. H. Jackson, a striking dark crimson. Geisha and Riesen Edelweiss are two of the peony flowered sorts that I think everyone would like: the former is scarlet, with a golden center, and petals charmingly twisted and irregular in form; the latter, pure, shining white, and quite gigantic in size.

Dahlias are usually taken up late in the fall, kept in the cellar over winter, and then set out again, the whole clump, in the spring. Experience has taught me that for the best effect, whether flowers or mass of color, this is not an advisable method to pursue. Separate the clumps—if necessary throw half the tubers away, though you can usually find a friend glad to take them—and plant them three feet apart, if the soil is deep and rich, as it should be. Probably a number of shoots will be thrown up: ruthlessly remove all but three or four of the strongest—all but two if you want extra fine flowers. Do not wait until some sudden summer thunder-storm has laid them low before you begin to think of tying them up to stakes. I have little use for the dainty little “plant-stakes.” Pieces of chestnut board, cut into inch strips, and painted dark green, will give you something not over-conspicuous, and that can be depended upon; they should be six or seven feet long.

Dahlias are not as particular about soil as they are about drainage and food supply. The former they must

have or they may rot; the latter, or they will do very poorly. Strong but well decayed stable manure, spaded in as deeply as possible, will carry them through in fine shape. While dahlias will not thrive in a sodden soil, they require plenty of moisture, and unless you have them within reach of the end of the hose, give them a mulching of half rotted manure when hot weather comes on.

In the fall, after the first frosts have blackened the masses of foliage and glorious blooms, cut them down to within six or eight inches of the ground, dig them up, shake off what earth falls away readily, and store them in a dry, frost-proof place. I let mine ripen for a couple of weeks in the sunshine under glass, or covered on cold nights with bags, before storing permanently.

Another of the glories of the early autumn garden is the cosmos. This is an entirely different flower (although they now have, as the latest type, a cosmos dahlia). Its charm lies, I think, not in its being an autumn flower, but a graceful and belated summer beauty, still lingering afield after the rest have gone, and all unmindful of approaching night.

The cosmos was a beautiful flower before the Argus-eyed hybridizers turned their attention to it. Now we have a larger, and, what is more, an earlier flowering race, which will bloom well before frost even when sown out-of-doors. The new giant-flowered type I always start indoors, or in a frame, in late March or April. Lady Lenox is a marvelously beautiful flower, and he who does not plan to have at least a few plants of it to adorn his garden will be omitting something that no other flower can take the place of.

The cosmos is one of those tall growing annuals which should be beheaded when about one-third grown, to induce branching. I like to have the plants at least a foot and a half apart, to give sufficient room.

I am not so enthusiastic about asters as many of my friends are, and yet I admit no fall garden would be complete without them. Semple's Late Branching is the type usually sown for late autumn

flowers, and they are very strong growing, with magnificent flowers, and strong, long stems. But the Comet, or Ostrich Feather type, has to me always seemed much more beautiful. If sown early they will bloom in August, but by selecting a favorable seed-bed, or shading until the seedlings are well started, they may be sown later, and be had in flower until frost.

And while we are taking thought for the fall garden,



A cactus dahlia that shows the improvement over the stiffness of previous types



Among the anemones there is a startling variety of color and form



Include the diverse colors of the California poppy in your fall garden



This variety of hardy chrysanthemum comes in rich brown, gold, and maroon



The calendulas vary as much as the dahlias and offer many beautiful sorts

let us not neglect the veranda, where flowering roses and trumpet-creepers and wistarias long since have faded. The old white Clematis (*C. Paniculata*) blooms in early fall. It is the most beautiful of all flowering vines. And fortunately its beauty does not cease with the passing of its flowers, for the graceful silken seed-vessels make a most pleasing sight, and last until the season's close.

And then there is the ever wonderful moon-flower, which is in its full glory late in the summer season. Be sure to include this in your list of fall flowers, but buy the started plants, as they require a long season in which to reach the flowering stage.

Foremost among the rear fall flowers—those which are not put to rout until actual hard freezing—I consider the hardy chrysanthemums. Practically all of these are of the small or "pompon" type. This has never seemed a disadvantage to me, for among chrysanthemums I have always preferred the graceful, beautiful sprays of small flowers to the immense stiff-necked and artificial

flowers, is probably the most popular, but personally I prefer the simplicity of the single sorts. Some flowers were never designed to be "improved" into a double form. These, too, need protection through the winter, rather more than is given the chrysanthemums. A good covering of leaves, held in place by pine boughs, is effective

blooms obtained by the processes of forcing and disbudding. Julia Lagravere, a deep rich garnet, and Princess of Wales, a clear flawless white, are my favorites. Together, either in the garden borders or in the house in vases, they make a striking contrast. The famous Shasta daisy is really a hardy chrysanthemum. The improved form, Alaska, is of pure white flowers to be had in any season.

The hardy chrysanthemums are very easily grown, asking only a well-drained position, and a winter quilt of leaves or strawy manure, which need not be heavy.

Next to the chrysanthemums, I love the Japanese anemones—those charming fairies of the late fall garden. A number of shades are to be had, in rose and pink, but best of all I like the pure whites. Of these, Whirlwind, with its large double



Many sprout a dahlia tuber, and plant it when the seedling has grown to this size



The peony flowered dahlia, evolved from the cactus type, approaches the single dahlia



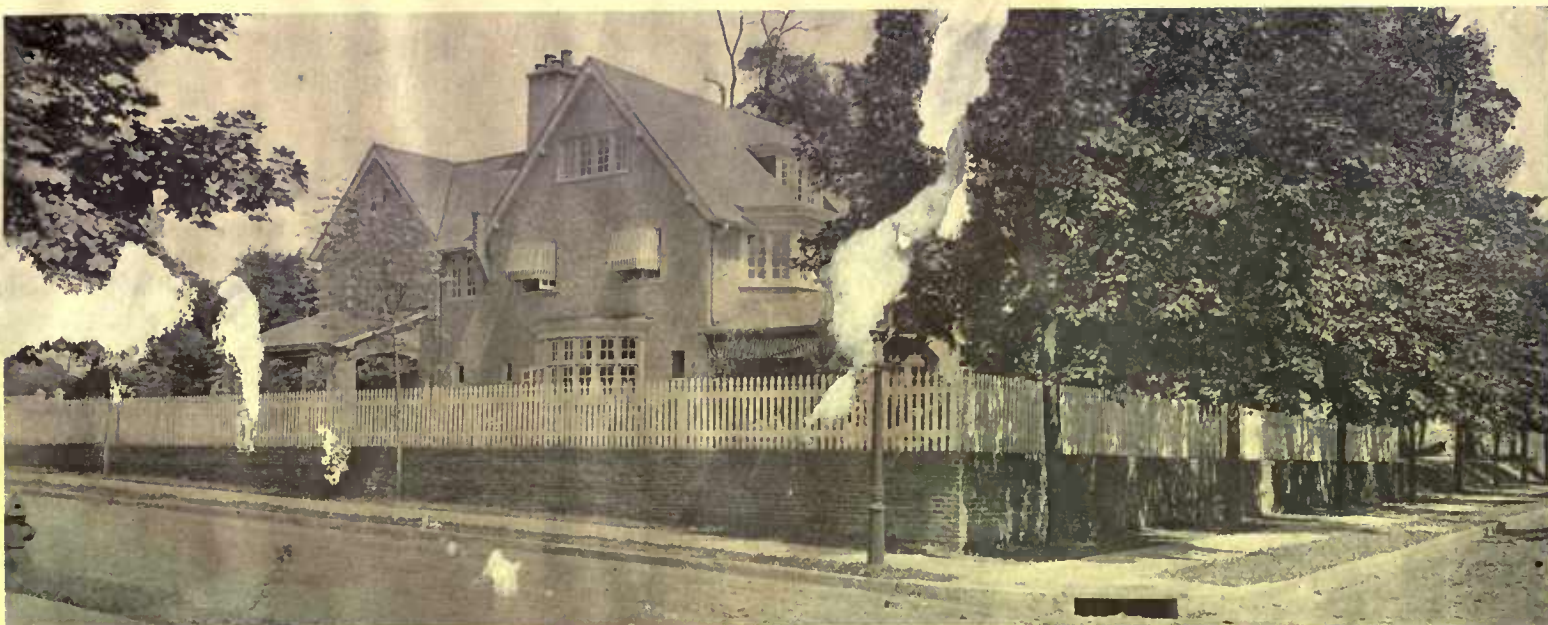
The Countess of Lonsdale is one of the most attractive of the cactus types

and not unsightly nor offensive.

The hardy asters (Michaelmas daisies) should be included in every fall garden. Their simple bright faces lend a charm and cheer which would be greatly missed no matter how plentiful more pretentious flowers might be. They are, too, among the very last to succumb to winter's dread invasion.

For a late fall supply of flowers for cutting, where a variety in form and color is wanted, nothing equals the so-called "annual" pinks (*Dianthus*). The range of color and the multitude of flower-forms now available in these splendid flowers is marvelous, even in the world of flowers. Though they are commonly called annuals, and generally treated as such, they may be carried through the winter by giving good protection, and will bloom a second summer.

The types and named varieties are far
(Continued on page 72)



The ground on which "Crankslea" is built embodies all the requirements for a home of moderate size, placed as it is at the intersection of two streets. The house stands in the open with a southwestern exposure, and is sufficiently removed from the main street to secure privacy

Homes That Architects Have Built For Themselves

"CRANKSLEA," THE HOME OF MR. LAWRENCE VISSCHER BOYD AT GERMANTOWN, PA.

BY MABEL TUKE PRIESTMAN

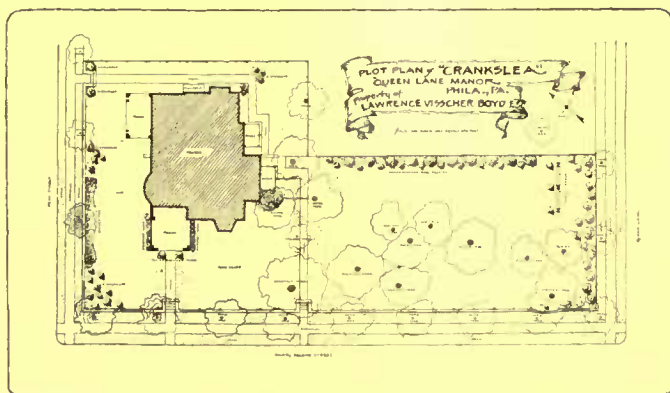
Photographs by the Author

THERE is a frank simplicity about "Crankslea" that appeals to those who delight in simple and livable homes. Not only is it pleasing from an architectural point of view, but it is a real home.

The problem that confronted Mr. Boyd when he started to build a house for himself was, what to do with the "things" that he had accumulated in his travels, and which he wanted to have around him. The solving of that problem is mainly responsible for the successful planning and furnishing of Crankslea.

When asked what dominating idea the house expressed, Mr. Boyd replied: "I did not dare consider seriously any dominating style for exterior design or interior detail or arrangement, as I knew that the finished house was to contain examples of art from all parts of the globe."

It was no easy task that Mr. Boyd set himself. He was anxious not to overcrowd the house with the architect's failing, "Too much architecture," and yet he had several pet theories that he wanted to introduce. In speaking of his home he remarked, "My home was designed along very simple lines, following somewhat the modern German influence. I knew that time, planting and living in the house would bring about the quality that had been so much admired in our old, simple farmhouses of the better



class. I wished to attain the feeling the Germans call 'gemütlich,' to feel at liberty to place on the exterior walls any cast or piece of faience that I especially admired. Therefore, while the house was being built, I tried the experiment of placing in the plaster of the front exterior, a beautiful Greek cast of Achilles' mother blessing her son before he went to battle. This proved successful and I allowed it to remain permanently, thus lending additional interest to the wall surface. A large cherry

tree directed my imagination to its decorative uses, with the result that it now supports an arbor and forms a picturesque end to the rear balcony. When in bloom, we are completely surrounded above and on all sides with the fragrant snowy blossoms."



An up-stairs bedroom that breathes the spirit of Colonial times

The setting of Mr. Boyd's house is a particularly happy one, for it is on the edge of a wood, and yet within a block of a trolley line. The house itself stands in the open with a southwestern exposure, but is sufficiently removed from the main thoroughfare to insure privacy. "When I discovered it," Mr. Boyd said, "I felt sure that I could retain all of its natural advantages. Before building, I carefully plotted all of the existing trees and placed the house so that it would not interfere with any of the shade trees in the rear. To con-

vince myself thoroughly that the house when built would satisfy me in every respect and from every point of view, I had a cardboard model made in full color with every detail shown: the fence, the trees, all were before me in miniature. I studied the model, and after making minor changes, finally arrived at a satisfactory result, though, in the matter of arches over the gateways, I found I must give them up or sacrifice some tree branches. It seemed an ideal condition to be able to build the house as it should be, in the open, and to have magnificent trees for shade in summer as well as a sunny forecourt for the cultivation of flowers. To further retain the spirit of privacy which we have all admired in the rural English home, the entire lot is surrounded by a whitewashed paling fence, about five hundred and fifty feet with borders of flowering plants inside."

The house is charming viewed from without, with its high-pitched roof lines and its rough-cast plaster walls. The rough, thick, variegated

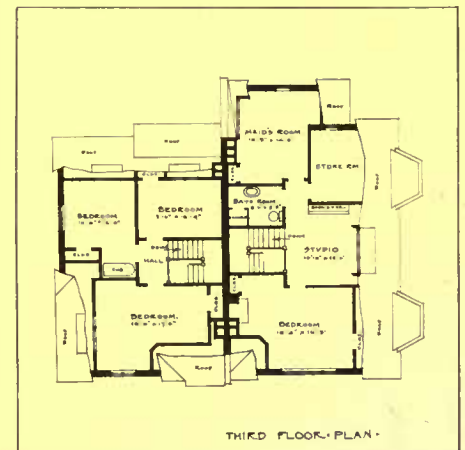
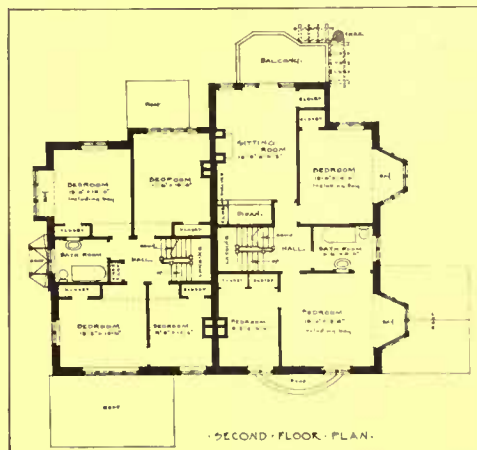
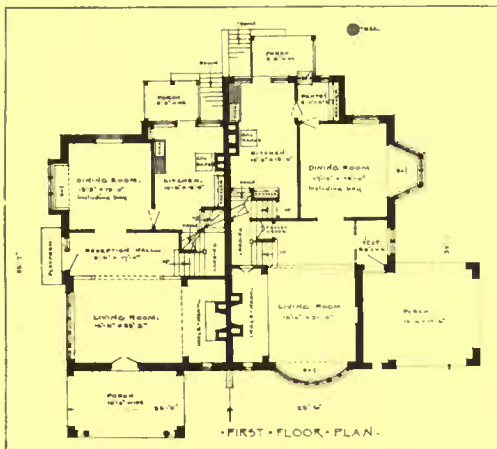


A large cherry tree supports one corner of the arbor and forms a picturesque end to the rear balcony

slates give touches of color revealing gray, red and purple tones in pleasing contrast to the warm cream tones of the rough walls. The window trims and cornices are ivory, and form a good setting for the brown Venetian blinds which are in every window. The porch is built on somewhat original lines, jutting out from the house, so as not to darken any of the principal rooms.

Planted on either side with shrubs, and with dwarf trees in choice garden pottery on either side of the entrance, it makes a delightful outdoor living-room. The back piazza is equally pleasing. Other pieces of garden pottery are tellingly placed, while a pergola alongside supports the upper balcony and forms a kind of double porch. At the extreme end of the garden is a beautiful arbor of Italian design, constructed entirely of polychrome cement, with modeled satyr heads supporting outlookers and trellis.

The three-casement bay windows of the dining-room and the bedrooms, and the circular casement bay of the



The plans show a pleasing combination to obtain all the light possible and at the same time employ an economy of window space. Although the rooms are not cut up, there are several of those interesting nooks and corners that provide a real homelike feeling



To get a comprehensive idea, a model was made in full color. By this means the necessary changes could be made before it was too late



The walls are of rough-cast in a warm tone, combining well with the gray, red, and purple of the slates; the trim is ivory



An inconspicuous tan pattern on the oatmeal wallpaper makes a good background for the fine old mahogany furniture



One of the most attractive features of the living-room is its rough plaster inglenook finished in light tan

living-room, one of the most attractive features of the house, in fact all the windows at "Crankslea" are casements opening out with interior sills of red quarry tiles.

The interior is what one would expect from the exterior, and shows the same care for detail and general effect, but the dainty, feminine touch is everywhere apparent, for Mrs. Boyd has the same love of color and appreciation of form as her husband, and they have worked together to bring about the desired results.

The unique vestibule with its arched ceiling is well lighted and most inviting. At night an electric light gleams from a Quessele globe in a bronze griffin vase conveniently placed on a carved teakwood table opposite the front door; a few interesting spots of color are introduced in the Japanese block prints and Kake-mono and Moorish plaques. Plants are placed on the quarry-tiled window sill and provide a supply to exchange with those in the living-rooms. The clear green tinted antique glass doors give an unusual effect, and are wisely not screened by curtains.

There is a feeling of space engendered by light walls and mirrors, so that the rooms seem larger than they really are. A door leading to the pantry simulates a window frame. Filled with small panes of mirror it gives a charming vista from the living-room, and eliminates the usual unsightly pantry door. The wallpaper in the hall living-room is one of the serviceable Eltonbury fibres in café-au-lait color, and makes an excellent background for pictures and ornaments. The inglenook is finished in rough plaster, colored the same shade as the paper. The

red bricks of the hearth, laid herringbone, are deepened by a bath of linseed oil. Above the brick fireplace is a niche backed with blue and copper Moravian tiles, and planned to hold the plaster bust of the unknown girl from the Louvre. On either side of the inglenook are small windows, one of Belgian stained glass, while the door-window over the bookcase contains ancient Chinese temple gates, carved in red and gold lacquer. The staircase rising out of the living-room is a feature of interest. The balustrade is original, mortised through an extended support at each tread finished off with round-head brass screws. The living-room is furnished in fumed oak furniture with brown leather seats and cushions, with an old gate table of sturdy oak. Some rare old rugs repeat the colors in the room.

The dining-room is separated from the living-room by a portière. The same neutral wall tones are apparent, though the paper is a figured one made specially for Mr. Boyd, from his own design. It is an inconspicuous pattern in brown, on a paler shade of oatmeal paper. The furniture consists of beautiful old mahogany heirlooms that are much prized, the Sheraton sideboard is a specially good one and its beauty is enhanced by an old mirror being placed above it. Some antique silver and old china make a very complete Colonial dining-room. The deep bay window with curtains of cream madras and blue raw silk is its last detail.

Throughout the house the same care for appropriate complete-
(Continued on page 60)



The hall and living-room are not separated, which gives a spacious, well-lighted effect



An up-stairs sitting-room provides delightful privacy that may not always be had in the ground floor living-room

The Right Place for the Garden Arch

THERE IS A CHARM THAT OLD-FASHIONED GARDENS OBTAINED FROM THE PROPER USE OF ARCHES AND ARBORS—PRESENT DAY POSSIBILITIES TO GET BEST RESULTS

BY GRACE TABOR

Photographs by the Author and others

OUR gardens generally seem curiously lacking in that charming structure, the garden arch—especially recently-made gardens. Just why this is so I have never been able to make up my mind; they were frequent enough in old gardens, and their beauty is self-evident. Why do we have so few now? Can it be a part of the general self-consciousness that has pervaded building of every kind among us, for the last forty years or so? Having no "practical purpose"—unless used as a grape trellis—an arch gives its builder possibly a guilty sense of folly, when someone demands in an unsympathetic tone, "What's that thing for?" For it is an exceedingly difficult matter to explain to the man who will put such a query, what it is for. It takes imagination to want an arch, imagination to build it, and imagination to enjoy it—and imagination eludes explanations.

Of course an arch may, through being unhappily placed in the garden, fail absolutely in its purpose of interesting and pleasing, but this is the fault of the gardener's judgment, and not in the least an argument against the structure in itself. It is only an argument against thrusting it down haphazard—which means that it is an argument in favor of the carefully thought out general plan which we can never successfully do without.

There seems at first glance very little reason for the use of



The arch should always lead to or from some distinctive portion of the garden, with a suggestive prospect beyond

isolated arches anywhere, for primarily it appears that an arch should afford support for something. But the custom that has prevailed from time immemorial of erecting arches of triumph, gives a precedent—wide though it seems from the mark—for an arch that is not a support, provided that it is beautiful in itself, and that it is set in right relation in the garden plan. Therefore, without going into its significance as an isolated structure, nor attempting an analysis of its value or of its influence as an object of frequent consideration, we may say that it is then its own excuse for being—which is excuse enough. So we are brought to the question of what positions an arch may occupy in the garden—or in the grounds.

The first proposition which appeals to me as a sound basis for a beginning is a negative—or at least is expressed in a negative. An arch should never stand between two similar spots or two spots similarly treated, such as at the centre of a garden, for instance. The positive end of this statement is that an arch should always lead into, or out from, some distinctive

portion of the garden, with either a diminishing or a widening prospect beyond it—never sameness.

In the garden shown in the upper illustration on this page, the wooden arch in the foreground leads to a walk that is obviously the entrance into a distinctively set apart rectangle—a cunningly



The approach to this arch is excellent, but the view through and beyond it is lacking in attractiveness



A succession of arches should serve to connect sections of the garden which have different characteristics

contrived gem of some sort, hidden away entirely and come upon as a surprise. Coming towards this spot from the opposite direction the other arch on the farther side leads in with the same sense of ceremonial approach—and I do not believe that anyone, strolling through this garden onto this walk, from anywhere, could fail to feel a thrill of pleasant curiosity and real anticipation at sight of either structure.

Don't you wish you could see now what is off to the right, behind the trim spruce hedge? But even the hol-

lyhocks are railed out and may only stretch up their heads as high as ever they can and peep over its tantalizing demureness. Are you not certain it is something lovely—some secluded bit too precious to be revealed without due preparation? Expectancy is keyed to its tip-toes by such an arrangement and a shrine of rare beauty must lie at hand to satisfy it. If this is not the case, if the trip up the steps and through under the arch to the opening in the middle of the hedge, does not bring an exclamation of delight and surprise, then the whole arrangement is a failure! Worse than that, it is an aggravation and an offence.

Of course the approach to this particular spot would be distinctive even if the arches were omitted, and a certain expectancy would hover about the steps and the general planting arrangement—but the structures dignify it all, and one passes beneath their span with a certain sense of definitely entering a precinct set apart. In other words, there is a psychological effect in an arch—indeed, what is there



An almost perfect garden design that leads the eye to a pleasant vista and at the same time connects distinctive garden sections

in which there is not?

Although it always seems hard to condemn anything from an old New England garden, we must see that the arch shown in the lower left-hand corner of this page well illustrates the negative side of this proposition, so far as one may judge from a picture. And in this instance we may judge perfectly from the picture, for it shows plainly the very thing that we shall see condemns it. This arch does not afford a transition from anything to anything else. The scheme demands

something to complete it. Perhaps in the old days when the arch was built, it did not lack—perhaps it is time that has robbed it of this completeness, even while it has mellowed it and added charm to its surroundings. However that may be, there is a fault in the sameness of the treatment before and beyond the arch. The boxwood border and the flowers are carried right along, and there is no difference after the arch is passed. This border and the flowers should stop—should end at the arch either on one side of it or on the other, and a different treatment of the walk margin be substituted. The arch itself, spanning such a walk, which gives a rising and narrowing prospect through it from below, is delightful, but the walk approaching from the foreground with exactly the same border treatment, robs the thing of all snap—of any force or climax.

Cover the lower part of the picture up to the foot of the structure itself, if you do not believe it, and see how much more effective it is, as a picture. Im- (Continued on page 49)



There is too much sameness in the border on both sides of this arch to make it really effective



These spruce poles with hop-vines over them would form effective arches if properly situated



Two little plaster figures that are really companions for the child

A Better Room for the Children

SOME NEW SUGGESTIONS TO MAKE THE CHILD'S ROOM PLEASANT—PICTURES AND CASTS THAT ARE EDUCATIONAL AND BEAUTIFUL AS WELL—WHAT THE FIELD OF JAPANESE PRINTS OFFERS

BY HETTIE RHODA MEADE

Photographs by Herbert E. Lawson



"Some things stay and let you play, Others get up and run away"

NOWHERE better than in the nursery can that which will delight as well as educate be combined. The things by which a child is surrounded in his childhood, objects, thoughts, and people, leave their indelible impression upon his consciousness. How important it is, then, that the children's room receive our earnest attention. How often all the cast-off pictures, ornaments and furniture are put into the children's room and the children have had to take the leftovers.

Instead of making the children's room the "catch-all" of the house, let us remember that it can be made a very delightful schoolroom where we may collect those things which will unconsciously tend towards developing in the child a love for the beautiful. At a very early age the child can begin his or her acquaintance with the things which will tend toward cultivation. The best of pictures, books, toys, furniture of correct proportions, groups of objects of harmonious colors should find their way into this room that can be a fairyland of delight to the child and a retreat of real pleasure to the parents.

Of late years, so many delightful things have been created for the child's room that a few can be spoken of here.

Some of the artists in clay modeling have modeled reliefs and statuettes of child-life that are simply radiant with the spirit of childhood, be it in thoughtful, happy or mischievous mood. One



The spirit of Stevenson's Child's Verses is in this cast entitled "The Wind"

of these statuettes is called The Chums, and represents a little coat and cap clad fellow hugging to himself a Teddy Bear. Every aspect of the little statuette is delightful, it is so true to life. Another is called Bashful Boy, and, indeed, to face the embarrassments of life does seem altogether too much for him. Miss Betty is the statue of a little girl with her doll hanging at her side. The Student suggests a man of stern aspect and hoary beard; it is a little fellow going grudgingly to school. None of these small figures is more than six inches high, and no child could fail to love them. While they could not be handled safely by a small child, the mother can weave stories around these delightful little people that would make veritable playmates of them, and at the same time their fine art would be making its impression upon the mind of the small owner.

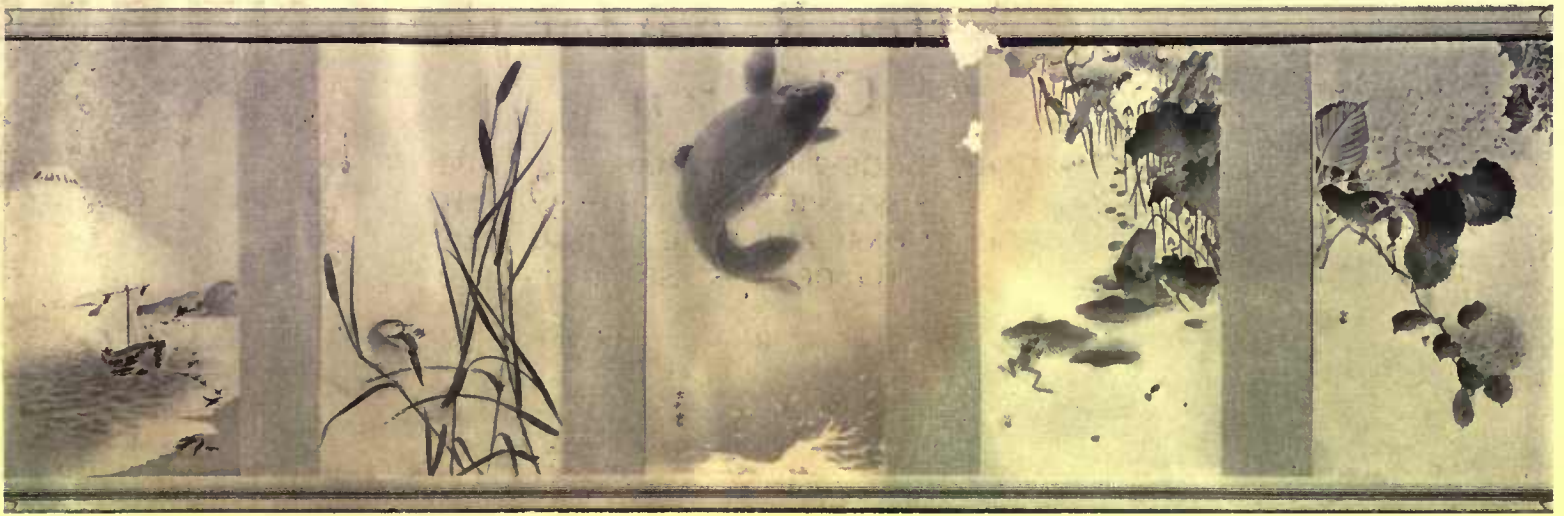
Bas-reliefs illustrating some of Robert Louis Stevenson's delightful Child's Garden of Verses have also been modeled by these artists of child-life. The Wind shows a little breeze-kissed girl, wondering at the mystery of the ever-blowing breezes, and illustrates the lines from the poem of that name. These plaster casts are valuable for acquaint-

ing the little folk, almost from babyhood, with these poems that will delight them all their lives.

Another suggestion for the decoration of the child's room is the use of inexpensive Japanese prints in a frieze arrangement around the room. Two styles of prints that can be

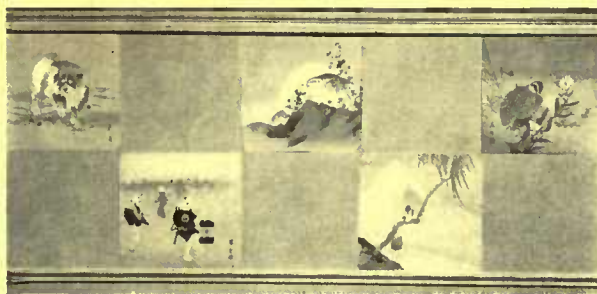


The love of animals that is so strong in children is heartily appealed to by some of the Japanese prints that show the animals in a very lifelike and realistic manner



Friezes may be arranged according to color, and there is a great variety of tones from which to choose. These prints all predominate in blue tints

very successfully used in such an arrangement are shown in the illustrations. The panel prints measure approximately 7 x 13 inches; the square prints, about 9 x 12 inches. No child could fail to appreciate these prints of animals, birds, flowers, fish, and all manner of creeping things, so true to life are they drawn. They are full of the spirit of the field, the woods and the waters. Aside from their vitality and charm of drawing, the colors of these prints are very beautiful. A large number come in soft grays and browns, as in the illustration showing the two prints of monkeys, one swinging from a branch of bamboo, the other studiously examining a bee. All of these prints, the mice, the badger, and the owl, and many other subjects, are in soft gray colorings, and can be harmoniously arranged on a gray wall-paper of indefinite stripe, or grass cloth effect.



The square prints may be arranged in various patterns on the frieze



A dado arrangement where the prints are grouped together according to subject

Other prints are mostly blue in their coloring, as the prints in the illustration showing the carp, the frog amongst the lotus leaves, the Japanese junk, Fuji, and so on. Other subjects have a good deal of pink in them, others delicate tans and browns, so whatever color one chooses to have the nursery, a harmonizing frieze can be chosen and arranged to suit the owner's taste. If the child for whom the room is being decorated is a very little boy or girl, the prints, instead of being arranged as a frieze, can be arranged as a dado, thus enabling the wee boy or girl to see at closer range the friends of barnyard, and wood, and stream.

In any case it will be better to arrange the prints under glass to prevent them from being soiled or flyspecked. A glass of light quality may be used in lengths that will
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The Japanese pictures are so full of life that they form a natural theme for interesting nature stories that are a continuous delight as well as instruction to small children

The Useful Columbine

A PLANT THAT GIVES SERVICE ALL OVER THE GARDEN IN SUN OR SHADE,
BAD SOIL OR GOOD—THE GREAT NUMBER OF INTERESTING VARIETIES

BY E. C. RITCHIE

Photographs by the Author

COLUMBINES have solved a very difficult problem for me, and I feel sure that there must be others who have similar problems and might be helped by my experience, so I venture to set it forth.

My hardy garden is a border seven feet wide running around the four sides of a rectangular terrace 30 feet by 70 feet. The slope on the upper side is planted with purple-leaved plum and hazelnut trees, and although these are kept clipped, they overhang the border considerably and also take much nourishment out of a soil already heavy and badly drained.

I have experimented with the border at the foot of these trees for seven years and have found columbines to be the only flower meeting my requirements for the fore part of it. There are several plants which thrive and blossom at the back of the border

where height is permissible. I have Japanese lilies, foxgloves and Japanese anemones there now, but the height limit for the fore part is two feet. Bloom is most needed and appreciated in this garden during the interval between the blooming of the spring bulbs and the June bloom of the rose garden and that of the annuals in the box garden, so I have considered only the May blooming perennials.

Columbines have, to my mind, many virtues. Their colors are most varied, yet harmonious, the foliage comes early in the spring, is interesting because of



Columbines are particularly suitable for use in borders and edgings, where they acceptably fill the gap between plants of low and high growth

buying plants; *chrysantha*, *flabellata nana alba*, *glandulosa*, and *caerulea* were the varieties. A number of the plants were not true to name and later I bought seed of the hybrid varieties. This germinated poorly, but by saving the seed from only the best plants I now have a collection of columbines which bloom for two months. The *vulgaris*, *glandulosa* and *canadensis* bloom earlier than the rest, and *chrysantha*, of which there is now a white variety, decidedly later.

In my experience the best time to sow the seed is immediately after it has ripened, when nearly every seed germinates, and the young plants attain sufficient size to stand the winter in the seed bed without protection. They will bloom a little the following spring and inferior varieties can be discarded. In the autumn, I transplant to my border, where many of the plants live and bloom profusely for
(Continued on page 48)

the different forms, and lasts well after the plants have flowered. Their blooming period is longer than that of any other perennial of their height and season. They succeed in either dry or wet seasons. They are not subject to diseases nor to the attacks of insects. They are graceful for cutting, and need no staking in summer and no protection in winter. In fact, they lack only perfume among the floral virtues.

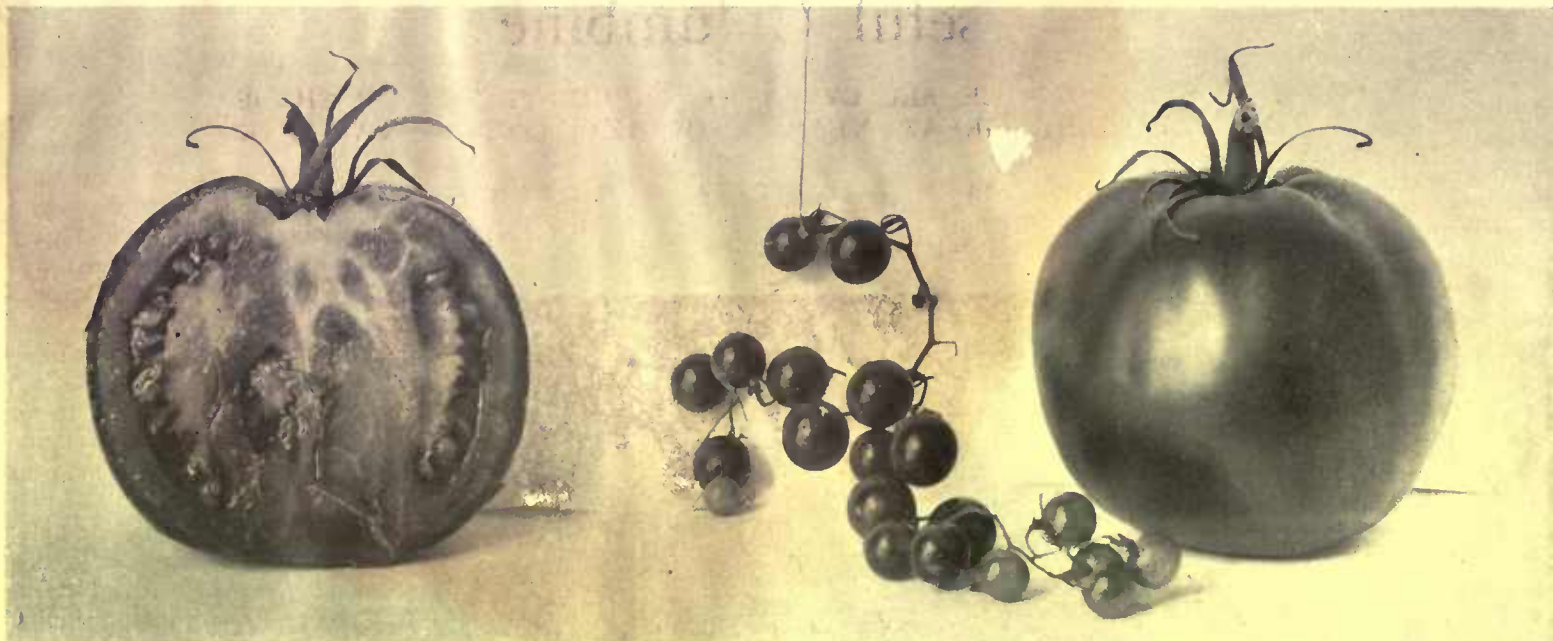
I began my collection of columbines by



In ground that is shaded or impoverished by trees, columbines often do well



The foliage is attractive as well as the blossoms, and presents considerable variety



It is a big step from the little Currant tomatoes of slight edible value and less than one-half inch diameter up to the luscious, full-meated development of the present, the Modern Globe variety

The Evolution of the Tomato

THE DIFFERENT STAGES IN DEVELOPMENT FROM THE CURRANT VARIETY TO THE ALMOST PERFECT FRUIT OF TO-DAY—THE CHARACTERISTICS OF THE VARIOUS UNCOMMON SORTS

BY ADOLPH KRUHM

Photographs by the Author

THE original tomato must evidently have possessed two characteristics which were very instrumental in bringing the race up to its present standard of perfection. One was the abundance of pollen found on the large clusters of blossoms, the other was the ideal shape of the small fruits. To follow step by step the changes the tomato had to undergo before it became what it is to-day, will prove interesting. Let us study for a few moments the noteworthy characteristics of those sorts which we may consider ancestors of the large tomatoes of to-day.

The smallest tomato in cultivation at present is the Currant variety, so called because a cluster of it is not unlike a cluster of currants. It is a thrifty sort with many slender branches on

which are borne in greatest abundance branching clusters of fifteen to thirty red fruits not more than half an inch in diameter. These tiny "berries" contain no meat except that found in the core in which the seeds are imbedded. Watery fluid and a tough skin make up the rest of the "fruit," which is of decided tomato flavor. The currant tomato is of no practical use except to experiment with the abundance of pollen found in flowers and the ideal shape of the small fruits.

From the Currant tomato to the Cherry tomato is but a very small step, but the evolution is remarkable. Strong branches carry many fruits, averaging one inch in diameter, in clusters of five to ten. The core has become larger and the outer walls



Steps in development. The Currant tomato at the left, followed by the Cherry, Plum, and Peach varieties



Further improvement in size, flavor, and texture is shown by the Pin-Cushion, Standard, and Modern Globe varieties

are thicker—enough flesh is now in the fruit to make it useful for preserving. Cherry tomatoes are of more acid flavor than Currant tomatoes.

The next improvement or upward move in tomatoes we find represented in the Plum tomato, so called because it has the shape of that fruit, being elongated from stem to blossom end. Plum tomatoes are nearly one-half as large again as the Cherry variety; they are nearly one-third solid meat, formed by enlargement of the core. Fruits are either red or yellow, according to variety, and are borne in clusters of three to five

In the Peach tomato, the largest and last of the odd sorts, we have the connecting link between the above earliest efforts of Nature and the improved tomato of modern times. In size it resembles some of our extra early tomatoes of standard size, averaging nearly two inches in diameter. It is nearly round, with but a slight depression at stem and blossom end and an indication of ribs while green. Between the ribs, the center core joins the outer walls with from three to five flesh layers, the first time in the evolution where this becomes a fact. In sorts previously described, only thin skins are found, never more than two, sometimes none at all. The outer walls of the Peach tomato are not thicker than those of a Plum tomato, but the center core has spread, measuring nearly an inch in diameter each way. From this meaty core extend the forerunners to perfection in the form of fleshy partitions, one-eighth inch thick, joining the outer walls of



The Cherry tomato follows the Currant in the evolution, but is nearly twice as large



The Globe is a hybrid form, which, while retaining the large size of the Standard, is more elongated

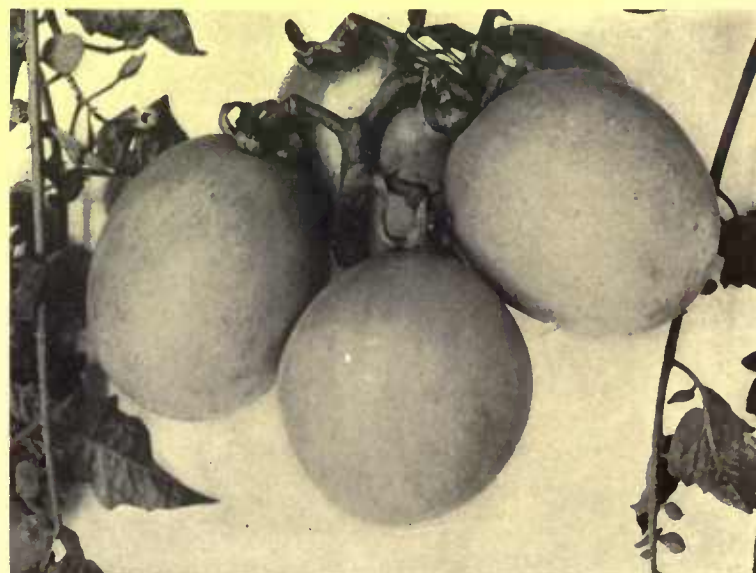
the fruit, which now shows a completely reconstructed interior. Considering their size, the Peach tomatoes are among the most solid tomatoes in cultivation. Were it not for their rather indifferent, mild flavor, they might be grown extensively. As it is, the fuzzy skin (like that of a peach) and the poor quality, completely counteract the advance step in size made by this sort in the evolution of the family.

From the Peach tomato to the old-fashioned Pin-cushion tomato we used to grow years ago as a curiosity and in memory of past ages, is but another step. The outer walls became thicker, the core greatly spread and became a fleshy heart. More fleshy partitions joined the outer walls with the heart, the continuous broadening of which caused some seed cavities to appear in its center. Such was the stage of tomato evolution in this country some sixty years ago, when the first "smooth" tomatoes entered the field. Smooth means free of ribs and a clear skin without defects. Slowly but surely the race progressed. After the importance of the tomato as a food article became recognized, growers gave serious and concentrated attention to its perfecting. First they worked on smoothness by selection; next they evolved size by intensive cultivation. The reduction of number and size of seed cells was worked on seriously. Then they encouraged the original tendency of the tomato to be round and worked for fruits deep through from stem to blossom end. A number of years ago,

(Continued on page 62)



The Plum tomato is nearly half as large again as the Cherry, and its fruit may be red or yellow, according to variety



The Peach form is nearly two inches in diameter, and is quite solid in texture. Its skin is covered with peach-like down

Reclaiming Old Houses

BY CHARLES EDWARD HOOPER

Photographs by the Author

EDITOR'S NOTE.—So many people are seeking the old house as the ideal country home that the subject bears much more than a cursory treatment. Mr. Hooper's wide experience in dealing with the problems of remodeling old homes makes him especially fitted to give the practical instruction necessary to make the undertaking the delightful success that it is in so few cases. For the first time the whole subject will be fully developed. This article deals with the choice of a house, and tells what one should know before purchasing—what is good and bad and the tests for determining a satisfactory site and building. The next issue will treat of just what to do with a practical example.

FOR one who has an atom of poetry in his soul, there is a tremendous fascination in the antique. With some it may be but a passing interest, as when one is brought in contact with some interesting specimen of the handicraft of earlier days. Others become worshipers at the shrine—purposely seeking and even collecting from simple pleasure. At all events, for a number of years past there are many who have taken up old places and made homes of them. For the most part this experiment has destroyed the character of the subject, at times even bordering on the criminal. Few have kept the feeling of the old thing, though the failures have not always been from want of inclination or lack of trying. With these last it simply is a question of not understanding the subject—of groping in the dark for something which is plain enough if one looks in the right direction. Ten to one, the first thing that the average person thinks of upon becoming the owner of an old house is the addition of a piazza, and, ten to one, this feature is not a part of the style to which he would tack it. It is simply a clash between two demands and conditions of living—the result is unavoidable.

Now let us take up the subject at the beginning in a matter-of-fact way and proceed through the natural channels to a definite conclusion: First catch your fish. One knows in a general way from the history just about what he may expect to find in various parts of the country. Naturally one does not look for relics of 1650 in a country that was a howling wilderness at that time—this is a thing to be remembered. We are, unfortunately, slaves to a certain mistaken notion that everything that may be called old, dates from "The Landing of the Pilgrims and Sixteen Twenty." Of all our helpless pioneers, they have been saddled with the most of the impossibles. There is enough of household furniture and utensils purported to have come over in the Mayflower to have sunk several modern navies, while they who have pinned their ancestry to this little band would make it imperative to have adopted all the foundlings in England in bearing out such



A good apple orchard is no mean consideration—it has beauty as well as utility

facts. Having been rationalized in the knowledge of conditions, one may cease to expect impossibilities and accept things as they are. Really they are sufficient as they stand.

Among the best things to consult after your history are the government charts which are drawn on a scale of an inch to the mile and are quite reliable and complete. These show contours of the land, giving elevations, roads and even houses when it is possible. Of course these charts as yet do not cover the whole of the country, but there is much that is covered, and in such cases the chart is valuable. Then there are the newspaper advertisements and the catalogues of several agents that make a specialty of farm property. But whatever selection you may make, be sure that it is practical—that is, does it cover your requirements as to accessibility in its nearness to public conveyance and in elapsed time from your business to and from it? Even if it be a summer problem, which is more than likely, it must be understood that week-end trips are tiresome at the best, and one does not care to spend all his time on the road.



A view on the Connecticut River that shows a desirable distance from the highway

Then there is the locality itself. Is it healthy? What are its inhabitants? Has it any public nuisance or insect pests? What of supplies and their prices?—the local store probably offers some minor articles, or it may be good to be absolutely relied on. Very likely, however, one must get things from the outside—can such be gotten with ease? Your postal service—what of that? Then there is fuel, an all-important problem. Also the taxes: is it a high or low rate, and if it be high, is it offset by the valuation? Is there any sane appeal in case of unfair valuation and taxation? What of climatic conditions, of pre-

vailing winds; do you get any benefit from the latter? The roads are rather important factors—you should understand what you are getting in this direction.

What is the immediate neighborhood and what its neighbors—are they desirable or otherwise—will they respect your property when you are away? It might be well to know. At all events get what elbow room you can—you will need it. At the same time consider that the care of several acres, other than woodland,



A Southern Maine house which is worth the time of examination for remodeling

occasions some expense. Your lot should be above the road level and rather drain onto it than receive drainage from it. Old houses, as a general rule, had their living-room facing the street, and unless there be a chance easily to arrange the plan to accommodate a good rearward view, your being below the road or too near to it might be a serious objection. Our forefathers had little time to sit about and view the beauties of Nature, and it is very likely that their taste leaned but slightly in such a direction. This nearness to the road is very apt to be a menace, owing to its lack of privacy under most conditions. It is rather a hard problem to handle successfully at times, and should be considered and solved, in outline at least, during the first survey.

One thing on which the possibilities of the place largely hinge is the outlook. We who have time to take up with the problem at all will demand this. Now what is the character of your view? Is it unobstructable, *i. e.*, can future developments destroy it? If the view is locally obstructed—that is, on the land itself, one can nearly always remedy it, but the outside obstruction is beyond this.

The general character of the surface of the plot is a thing to be noted well at the start. On this too, in a measure, depends the vital question of water supply and drainage. A local elevation or an easy slope is perhaps preferable to level ground, although the latter is reasonably safe from the menace of drainage from outside sources. It is better that your lot should drain into your neighbor's than his into yours. The local hollow is bad in many ways: everything flows into it; it is naturally damp and, being more or less cut off from the winds, is open to the invasion of frosts. The too steep grade, however, is a thing to be avoided on general principles, as there is a tendency to washouts in all your surface contours—gardens, grass plots, drives, walks and the like and, further, the climb involved in some approaches becomes a hardship, and if one calculates to remove to such property later in life, the objection is doubled.



Such a building as this has possibilities for making a livable and attractive home

Another thing as regards land contours is the general objection to high land in the immediate vicinity in any other direction than the north. Land sloping toward the south or southeast is, under ordinary conditions, the best that can be had. Of course locality has much to do with this as well as the direction of prevailing winds, and as these last play a very important part in the summer problem, they should be borne in mind. Although local conditions may vary with different localities, the location and influence of the sun is the same wherever one may go. With this to consider it is natural that the living-room of the house should be so located as to avoid the hot sun of a summer afternoon, and hence the outlook is best toward the east or southeast. Now of course it is hardly to be expected that one will find an example that embodies *all* the choicest points of the ideal condition, but the vital things should be insisted upon; one may perhaps jockey a little with the rest.

Water supply and drainage should be considered together, while in practice they should be kept apart. The ordinary water supply of the country is the dug well, and this should be as far from your ultimate drainage as is possible. It must cast a suspicious eye, too, on the barnyard, pig-pen and the outhouse, and if located near these should by all means be well above them in grade. It is hard to determine without actually tearing everything

to pieces just what direction the underground strata pitches. Therefore it is safer to give any source of contamination a wide berth. In cautioning the water supply to avoid the drainage, we are regulating the latter to its proper place, yet here it might be well to consider that your neighbor has a water supply and to consider this in your general rough solution of the problem.

Do you intend to do a little gardening, the presence of good soil and a fairly level garden plot are important.

Outside of a rather hasty first survey of the land the house itself naturally engages our immediate attention. We will assume that the exterior is

fairly pleasing or suggestive of possibilities; let us then pass to the interior, as this is the key to all our troubles.



An old home at Gray, Me., that is interesting but really beyond recovery

In the first going over two things should be borne in mind: the general visible condition, and the possibilities of the general arrangement. The latter one will naturally keep in mind while determining the former. This first survey will tell you whether your house walls are plumb or nearly so and your floors level. By the swing of doors over the floor, one may tell something of this. The condition of the doors and windows and the standing finish should be investigated and, what is of considerable importance, the easy tread and accessibility of the stairs. This last is really vital inasmuch as the extra space required to make easy stairs may not be forthcoming, however much you may desire it.

Right here it may be well to introduce a few simple technicalities regarding stairs in general. The treads of a flight of stairs are the steps or horizontal members on which we tread; the risers are the vertical members between the treads. Speaking in figures, we say that the rise is so much and the tread so much; in this way we definitely define the stairs. On a large scale the height from floor to floor is called the rise and the available horizontal space the run of the flight. Modern calculation has reduced the problem of

easy stairs to the following rule: the product of the rise and tread in inches should equal seventy or nearly so. It has been found by experiment that the nearer we keep to the rule, the easier the stairs. Like all rules, this one is not infallible; within it there is a happy medium, from which in either direction it is dangerous to travel far. The happy medium lies in a tread of ten inches and a rise of seven—this for the front stairs of a dwelling. If we increase the rise we decrease the tread and vice versa. It is hardly likely that we will find, in an old house, stairs as easy as seven by ten—they are more apt to be steeper. For the front stairs it is not best that they be steeper than eight and one-half by eight and one-half. The fact that they may be much flatter than seven by ten is so improbable that one hardly need consider it.

Now supposing the stairs in question to be too steep: in their correction we must, in reducing the rise, increase the total number of risers and consequently the total number of treads and, as in all probability the depth of the treads will be increased to come anywhere near the seven by ten standard, we can see at once that the total run of the tread will be a considerable gain on the original run. Vital question: Have you the space for the extra run?

When there is a chance for a new and independent flight of stairs which will be the most used medium of inter-story communication, the question of the steep original is not so vital.

Then, too, there is the condition of the plastering. If one

taps it he can determine whether or not it has broken away from the clinch. Such as may be loose will of course have to be replaced. And in the case of a large area and old-fashioned laths it is best to tear out and relath, as it is a considerable job to free the intervals in old lathing from plaster. Old plastering was generally better than ours, being made for the most part from shell lime. Their lathing in most cases was inferior, as it did not give a uniform chance for a clinch of the plastering.

Look out for the sagging or saddle-back roof—it is hard to rectify. In its settlement it has exerted a tremendous pressure against the outer walls of the house and forced them outward. If



A stone walled and elm flanked driveway such as this is far beyond the possibilities of the man who builds a new house

the house walls had held there would have been no settlement of the roof. This problem is so difficult as to require practically the rebuilding of the entire structure involved. Not only have the walls spread at the plate or junction of the roof, but they have probably pulled away from the second floor as well.

Next to the true level and plumb condition of the structure is the *real* condition of the main timbers. The sill first of all: it stands to reason that if this is badly decayed, other members which have depended upon it for support have settled—the first floor timbers are affected—the settling studs and other uprights have either dragged other members with them or allowed them to follow after of their own weight. The same general result may be expected if the ends of the uprights themselves become deteriorated. Now, it may be possible that the evidences of decay are not visible, in which case a knife or some long sharp instrument should be used from both inside and out, where practical. If there be not too much settlement, lesser timbers, or to a limited extent larger timbers, may be replaced, with less expense in the case of floor timbers or girders, which are more or less independent of the outer walls. Often, too, a slight local settlement may be rectified, although the problem is rather hazardous, involving besides the first expense others which may arise from it, such as a broken plastering and sagging doors and windows.

(Continued on page 52)



There is a wealth of color to be found in the variant bloom of the French and African marigolds

A Garden of Annuals

THE BEST GARDEN FOR THE BEGINNER—BIG ADVANTAGES OF BLOOM
THE YEAR OF PLANTING—SUGGESTIVE ARRANGEMENTS OF PLANTS

BY H. S. ADAMS

Photographs by Mary H. Northend, Jessie Tarbox Beals, Nathan R. Graves and Chas. Jones

EDITOR'S NOTE.—Most people have some peculiar prejudice in favor of a certain type of garden. This may be influenced by personal tastes or by the exigencies of location. But the fact remains that there are different kinds of gardens to choose from as well as there are different styles of architecture. The purpose of this series is to show what types are available. This article describes the garden made chiefly of annuals. Last month the utility garden was presented; other types will follow in subsequent issues.

AFTER all, there is only one garden for everybody. This is the garden of annuals. Time, means, uncertain domicile and what not may stand in the way of the hardy garden, the rose garden and other charming retreats that snap their fingers at winter's chill; but who, with the desire in the heart, may not have a garden of the flowers that are of a single summer? So little as a nickel, a window box and a wholly negligible amount of labor will create something that every wandering bee will gladly deem a garden—even a delectable one.

I was born and brought up, so to speak, in a garden of annuals, though much of my

early flower education came in the course of frequent excursions into the old hardy gardens of the neighborhood. This was quite a matter of accident. I am rather inclined to think, however, as I look back into those years, that the garden of annuals is not only everybody's garden but the sort of garden that everybody should begin with. It is a fine school of experience in many ways—especially in the use of color in the garden.

Not that the garden of annuals needs any excuse for being; it is its own excuse, and always will be. Sometimes it is the best of all gardens and never, whether it be the sole retreat or only one of several pleasant places, does it



The dwarf nasturtium grows so easily it should not be neglected



A planting of annuals in straight beds. Nicotiana makes a wonderful background for lower growing plants. It appears best when massed



A garden could consist of asters alone; Comet is a fine variety



An annual garden where there are straight and irregular beds, and the favorite petunias, phlox, and alyssum appear to the best advantage

fail to offer unique joy and unique opportunity to its maker.

The best kind of a garden of annuals—that is to say, for you—is not, primarily, the kind that you like best. This is one more of those dreadful truths about gardening that take one so long to learn. First of all, unless you are lucky enough to have a place that runs the entire gamut of site advantages, you must decide what is best for the home grounds rather than yield to your precise preference. Your neighbor, perhaps, may have a great rectangular layout, while for you the only course is the utilization of both sides of the wide walk that runs down through the vegetable patch. Nor is your neighbor necessarily more fortunate. Some of the most beautiful of these transitory gardens have been along a path “as crooked as a ram’s horn,” or random beds close by the vegetables, or borders defining the lawn or a mass of bloom snuggling up close to the side of the house. So keep taste until the last, and then use it unsparingly.

The formal plantation of annuals is of all gardens of set pattern the least expensive and the least burdensome as to labor. Profuse bloom all summer may be assured and there is no bothersome winter protection

called for. Furthermore, it may be changed completely every year. It is best when located in the rear of the house or well to one side, beyond the stretch of lawn; but if sunshine will not come to it in either place, it must go to the sunshine. Always it is well to have it at the end of a path of generous length—if not straight all the more pleasing—and either shrubbery or a hedge should frame it, or at least enough so as to give the air of a place apart. If flowers define the path to the garden let them be perennials by preference, so that the approach will not be bare spring and fall. For this bareness early and late is the one disadvantage of the garden of annuals, unless it be avoided by the pleasurable, and certainly quite pardonable, inconsistency of throwing spring bulbs and a few of the hardier bedding plants into that category.

A formal garden design should not be very intricate, unless the working out of it is left to professional hands. One of the easiest patterns is to lay out two long narrow beds some distance apart, and fill the space between with shorter beds running the other way. None of the beds should be less than four feet wide, and six is better still. Three feet is little enough to



The alyssum border forms a brilliant contrast of white against a grass path

allow for the paths, and more space will be needed if the plants used are likely to have much of an overhang. Or a square plot may be laid out in four beds in either one of two ways—with a square central bed and four L-shaped corner ones, or with the same corner beds curved on the inside to follow the lines of a circular central bed.

In the actual planting, even of a five-piece design, the possibilities are so numerous that a lifetime would be too short to begin to test the combinations on one plot of ground. Whether the grower wants form, color, fragrance, or all three, the trouble will always be what to select from the embarrassment of riches; this, too, after reaching the sensible conclusion that only the annuals that are long of bloom and tolerably compact of habit are worth while as weaving material. Beds in all of these three designs should be edged with some low-growing flower, leaving to individual preference the question as to whether the filling be a massing of one variety or a patterned array of several. When it comes to a border, either straight or entrancingly crooked, formality can be thrown to the four winds. And it may well be, save in the case of a straight border, where not infrequently formal edging, at least, is desirable. A border with any curves at all is best planted in patches of irregular shape. The same is true where a border spreads in one or more places to two or three

times its width or where, instead of a border, there is a large bed of a greater or less degree of regularity.

These patches, which it is rather pleasant to call colonies, are the saving grace of borders and unconventional beds—where it is seldom advisable to plant annuals in straight rows, unless it be for an edging. One way to use them most effectively is, working from the rear, to make precisely the same sort of irregularity that a coast line follows with its capes and bays. Other varieties are then employed to fill in the “bays” and the space between the

walk, turf, and the line of “capes.” In the case of a border along a meandering path, or a large bed of irregular shape, an admirable plan is to arrange the colonies something on the “crazy-quilt” order. If the colonies are of generous, but varying, size, this arrangement does not look patchy. Now and then let a plant or two from one colony stray over into the next one; this makes a good “bridge” at any time, and when the color contrast is sharp renders the picture more agreeable to the eye.

The cost of a garden of annuals may be so exceedingly low that the money end will appear a negligible quantity. A few five-cent packages of flower seeds and you are through with spending money for a whole season. Nearly one hundred annuals are within the nickel limit. Most of these are desirable in one way or an-

(Continued on page 55)



An effective garden arrangement with a circular central bed divided in half and four curved corner beds



At the right of this straight path hollyhocks are planted; at the left, irregular clumps of well-known annuals

The Naturalizing of a City Man

Editor's Note:—The author of this narrative—begun in the December number—had refused to write the story of his experiences in going from business life to a farm. His objection was that the published account taken from his closely written diary would contain nothing of the joy and inspiration he felt in getting close to Nature, and would be merely a matter-of-fact list of happenings with their message lost. He finally consented to write it in his own way, allowing memory and imagination to lend color to those days of struggle which are now cherished recollections. He preferred to hide his identity under the disguise of another person, but the essential facts are true and full of practical information. This is the sixth installment and deals with the early rewards of the man's labors. Subsequent issues will show how the farm developed to a paying basis.

THE long, warm, golden days of June brought new experiences and new delights to the adventurers who had turned their backs upon the city, and faced the problem of digging a living out of a run-down New England farm.

Much as they had enjoyed the days of late winter and early spring, in spite of, or perhaps because of, the multitudinous activities which kept them occupied incessantly, the opening weeks of summer revealed still greater pleasures. Although the work about the farm and with the growing crops, especially those in the ever-changing garden, kept them busy as a hive of bees, still in the long, warm evenings they found leisure for rest, and for "loafing" on the veranda. With the advent of the perennial mosquito crop, however, they found themselves driven indoors. This was put up with for a few hot evenings, and then a part of the veranda was fenced in with light pine scantlings and covered with mosquito netting, after which they lived in peace. This new "room" was decorated with a few potted plants, including several climbing parlor ivies from the greenhouse, a spare rug and a few chairs, and immediately became very popular with every member of the family.

The cultivation of the potatoes and corn Mr. Mantell attended to almost entirely himself. It was work that he enjoyed tremendously, and took great pride in. To the uninitiated, such simple farm operations as cultivating always seem a mere matter of routine. He himself had always considered them so; in fact, he knew that this might still be the case, had it not been for his discovery of what scientific methods he could apply. As it was, he took the greatest care always to set the machine so it would run just deep enough, and by means of the width-adjusting lever, kept it shaving up as close as possible to the rows without injuring them.

The result was that while the Squire laughed at him for being "cultivation crazy," his fields were kept clean, and there was practically no hand hoeing to be done in them. The Squire still used an old-fashioned cultivator, which had no "depth regulator" and which could not be adjusted in width quickly enough to enable one to alter it while in operation.

The Squire got good crops: nothing was ever allowed to be behind hand, or to go half done, on his place. But as the season wore on, he became more interested in Mantell's "new-fangled" methods of doing some things, and cultivation was one of them.

"I don't know but what that machine is a little better than mine, Henry," he puffed out one day, as Mantell got to the end of a row that widened out, and shoved the lever farther over to take up the extra space.

Mantell stopped to explain to him that he considered the depth



Two days sufficed for getting in the hay, as it dried quickly in the hot sun and could be stored almost as soon as raked

regulator even more important, as it enabled him to obtain a dust-mulch on the surface, without danger of cutting and bruising the roots deeper down. "Why don't you get one like it?" he asked the Squire in conclusion.

"I guess I'll have to—another year," was the reply. "The old one will do this year, I reckon."

Mantell smiled as he swung back into the next row. The price of the machine was eight dollars, a year's interest on which was forty-eight cents, and the Squire had plenty of cash in the local bank that was not even drawing

interest. Forty-eight cents was about the price of one-half bushel of early potatoes, and if better cultivation made any difference at all on the Squire's potato field, it would certainly make more than two pecks. But that was not Mantell's business, and knowing the Squire, he let the matter drop—though as chance would have it that was not the end of the incident.

The vegetable garden, under the skilful and interested care of Raffles, was doing splendidly. Several times a week, they had to load up the only wagon they had—which was quite inadequate for the purpose—and go to town. This task frequently fell to the mistress of the household, who seemed to develop quite a professional ability as a saleswoman. In her tan and freckles, her old-fashioned bonnet, and her "work-dress" very few of her friends would have recognized the wife of the erstwhile president of a big New York company; possibly it would have seemed that the sunny smile which greeted them belonged rather to a happy, simple country girl than to a lady of polished manners who had occupied a leading position in her "set," and was now driven by poverty to a life of hard manual labor in the backwoods of an unheard of New England town. Mrs. Mantell, however, could not have been induced to change places with any of her former and (in their own opinions) more fortunate companions. She was perfectly happy on her own account, and doubly so in the happiness of her husband and her children. Her charm, courage and personality had made the several tradespeople with whom she dealt deeply interested in the outcome of the Mantell enterprise, and they lost no opportunity of doing what they could to assist her, and of recommending her products to their customers.

No small part of the day's work was the getting ready of a load of "truck" for market. This would consist, in general, of six or eight dozen heads of lettuce, four or six dozen bunches of beets, several dozen more of radishes and carrots, a hundred pounds of cabbage and a bushel of peas. The amount of time required to gather, wash, bunch and pack these various things was quite astonishing, and had it not been for the aid which Robert and Helen were able to give would have taken a

great deal of Raffles' and Mantell's time from more important but less urgent work.

As the summer wore on, and the long hot days came, the other vegetable crops began to mature quickly, and grew with a rapidity that was quite amazing. Mantell was often surprised to see the growth of various things when it chanced that other work had kept him from looking over the garden crops for a space of two or three days. And most wonderful of all was the growth that the weeds could make. In the onion bed, for instance, after their first back-breaking and knee-wearing encounter, it seemed that there could not be much trouble left—every small weed seedling had been conscientiously removed. But a two days' rain followed by a "spell" of extra hot weather had come soon after, and within two weeks the rows, though kept clean in the center by Raffles' energetic use of the wheel-hoe, were positively *green*. No wonder that the onion crop was not a favorite with many of the not over ambitious natives! At the second weeding, however, the work went much more quickly and comfortably;

any other basis than that of the wildest cutthroat competition. It was very plain, however, that almost any pains which could be taken to procure an extra early crop would be made up for by the higher prices obtainable for the first few days' sales. And this was another of the notes put down in the little "red book" which Mantell now kept—with notes, data, and cost accounts of the various farm and garden activities—as a basis for next year's plans.

Another of the summer excitements was getting in the hay. As they had no mowing machine or horse rake, arrangements were made with the Squire to "swap work" on the haying job.

Mantell's crop of hay was very light, and ready long before the Squire's—in fact, if it had not been for the Squire's kindness in keeping a friendly eye open, and getting him to cut it in time, he would have lost a good deal of what little value it had. They struck a couple of good summer days, and finished the job in short order, as the hay was dry enough to get in almost as soon as raked. They got three good sized loads, but Mantell figured



From the Squire's wide acres the burring click of the mowing machines floated over to Mantell's place and filled the imagination of the former city man with vivid pictures of haying time, that period of bustle and excitement which is one of the great events in the farmer's summer

and how pretty the patch did look after it, when the weeds had disappeared in the drying sun, and only the slender dark green of the onion, in the straight slim rows, was to be seen. It certainly was worth the effort, and bore every promise of paying handsomely, when the crop was gathered, for all their trouble.

Beans, sweet corn, tomatoes, and summer squash came on in season, and not only added to the list of marketable things, but brought great joy to the home table, where all good things from the garden were rendered doubly delicious by the skill and care with which the head bookkeeper and chief cook prepared them. In their marketing, however, Mantell noted one thing very quickly: the prices for the first few pickings made things look almost like money from the sale of a new issue of stock; but after that it was like trying to get into a competitor's markets. Not that there was a surplus of garden stuff produced around Priestly, but the prices, based always on the city quotations, were surprisingly lower. Evidently the market gardeners supplying the larger cities had never learned to organize and keep prices on

out that they had got just about one-fifth of a good crop, according to what the "literature" furnished by the United States Agricultural Department had to say about grass crops.

Of course, under the circumstances, this was not Mantell's fault, and yet he was loath to let any of his fields produce so little during a whole season. After studying the situation over as carefully as he could he made up his mind to put in corn. The Squire thought it was too late, but Mantell finally decided to try it out. It was the first of July when they finished haying, and as most of the Squire's grass was not yet ready, he was able to spare a team for a few days. The field was plowed and thoroughly harrowed, and although very dry, worked up pretty well. They got seed from the Squire, and the use of a one-horse planter from another neighbor, and planted deep, in drills, for Mantell knew there would be no chance of maturing ears. The Squire, as usual, pretended to be entirely skeptical.

"You won't need so much fodder, anyway," he said. "There'll

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The little African daisy is now a desirable addition to any garden

Improving the Flower Varieties

THE RESULT OF PLANT BREEDING TO PRODUCE BLOSSOMS BETTER IN COLOR, SIZE, OR FORM—WHAT THE GARDEN LOVER CAN DO IN THIS FIELD FOR HIMSELF—RECENT ACHIEVEMENTS

BY F. F. ROCKWELL

Photographs by Mary H. Northend, Chas. Jones, and N. R. Graves.

I SUPPOSE we are all, at times, tempted to break the tenth commandment. I admit frankly that I am; I envy some people their gardens; or, to be more correct, the time they can spend in them.

The great joy, that peaceful, comfortable but unparalleled pleasure of the true gardener is not to behold, but to create: it is a calm,

but an active instead of a passive passion. Even the private gardener, who cannot feel that a single plant in all the extensive grounds is his own, gets a hundred times more happiness from his beloved gardens than does the half-appreciative owner.

And just as no true gardener would be content to take a garden ready made, so every one who has worked among flowers, and come to realize those fine distinctions which separate not only different groups and varieties, but even different plants and blooms of the same sort, inevitably comes to feel within him the urging to create or develop new sorts. Some particular form, some peculiar shade of coloring will, by the intricate and inexplicable laws of individuality, appeal especially to him, and these he will want to fix, to make his own for the future. There is also the healthy and powerful fascination of the feeling of creating something new, something heretofore undiscovered. It may not be an improvement; perhaps even "a poor thing, but mine own!" Nevertheless, it will hold your interest and affection.

Thus, it seems to me, this feeling that one can put himself into harmony with the creative forces of Nature, the mystery of Evolution, is the supreme joy of gardening, at once more intellectual, more keen and more permanent than any other.

I do not mean by this to suggest that you consider making yourself a candidate for a second Burbank, but there are certain things along the lines mentioned above that you can do: things that are perfectly practical and which will give you a great amount of fun and interest.

First of all, you can experiment with different varieties of the same flower, until you feel satisfied that you have found the ones which suit you best. It is hard to make a satisfactory selection of flowers from the descriptions given in a seed catalog. You may save time by paying a visit to some nursery or large greenhouse establishment, but even this is not wholly satisfactory, as the chances are that many of the things you want to see will not be "in stock," and only a part of the various things will be in bloom at one time. The only real way to get results that are certain is to test out all the sorts you can under the conditions in which you will grow them in future years, and then pick out the best and discard the others.

That is the first step, and by no means an impractical one, for the work need not all be done at once. It may be spread over as many years as one wishes, a good plan being to take one group of plants at a time. In this way you are able to make a more inclusive trial, and to compare the different sorts more definitely. I know one democratic lady who has gone through the list of annuals and half-hardy perennials alphabetically, taking as many as she could each year—but not all the varieties, of course. They were by no means the sorts most praised in the catalogs that gave her the best results.

Having taken this interesting first step, you are best prepared to proceed with the second, which is even more intensely fascinating—that is, to keep and improve your favorites until you attain the acme of beauty and strength of growth with each sort. By this time, those plants which you have singled out as being worthy a place in your selected garden will have assumed an individuality, created in you a personal interest which in the old haphazard garden you would never have dreamed possible, and it will be



Old-fashioned coxcomb has been developed into the long, sweeping ostrich plumes of the modern celosia



There is a new "half dwarf" strain of snapdragon that should go far toward adding to the deserved popularity of this attractive flower



The lupine is especially fine for cutting, and grows easily even in poor soil

with the keenest delight and appreciation that you watch the development of each successive generation.

Nature is full of seeming contradictions, and plant breeding is no exception to the general rule. At least a rudimentary knowledge of the principles which have been found to apply is necessary even for the amateur seeking only his or her own amusement. Otherwise, doing what may seem to be the right thing will result in failure. I will never forget the disappointment of my first attempt at plant breeding. In a lot of seedling petunias I found one of exceptional beauty and symmetry of marking, the most lovely single flower of this sort I had ever seen. It was carefully separated from all the rest, cared for faithfully, and the seed saved and planted in the innocent expectation that a hundred like it would take its place. They came up most encouragingly,

and grew along like weeds. One by one they blossomed; all sorts, all colors, all kinds of markings except the one I looked for! One cutting from the parent plant would have preserved my beautiful flower, reproducing it with almost perfect exactness; all the seeds I might plant would probably never give it to me.

In other words, some flowers will "come true" from seed, but many others will not; and if one wished to save extra choice specimens of the latter it must be by means of cuttings. There is not room here for an itemized list of the two classes, but you can tell as a rule by referring to a seed catalog. If the seed of the species in question is sold mostly by *named varieties*, like mignonette, sweet peas, or alyssum, that flower probably belongs to the first class; if seeds are sold as "choice hybrids" such as verbenas or petunias, you will be pretty safe in assuming that the only way you can propagate individualized strains of these flowers is by cutting.

New varieties are obtained in one of three ways: by development or "selection," by cross-breeding, or "hybridization," and by "sports" (mutations).

All three of these agencies of evolution are active in Nature, unassisted by man—in fact, most of the improvements in flowers, up to a comparatively recent date, were the result of accidental causes. The science of plant breeding has, however, taken great strides during the last few decades, and there is no reason why it should not prove a healthy and interesting avocation for hundreds of amateurs.

Improvement by selection is the easiest and the surest method of building up the personnel of your garden. This may be made to operate in two ways; that is, you may aim simply to grow extra fine specimens of types that already exist, or you may attempt to emphasize some particular feature of form, size, color or habit of growth. This work will require patience and care; but what can be imagined more interesting, more fascinating, than to see a living plant, generation after generation, following gradually your guidance and coming nearer your ideal.

To use successfully the second method, hybridizing, you should have some knowledge of the relationship of the various species, and must be, or make yourself, familiar with the arrangement and functions of the sex organs of flower life—information along both of which lines you can get from any first-class book on botany. If you desire to attempt the work in an intelligent way, you cannot leave the pollination of your subjects to such chance agencies of Nature as the bees or the wind, but carry it on yourself with care and precaution.

If you keep your eyes open, as you work in this new and wonderful garden of yours, you may be fortunate enough to discover, some day, and in some unexpected place, a distinct "break" or "sport" in some member of the happy family. I have just suc-



You can breed new varieties of dahlias by fertilizing with the pollen of favorite kinds



A great improvement has been attained in the tuberous begonias, especially in the Wundulata type, which has fringed edges

ceeded in rooting two cuttings of Madam Salleroi geranium—the little green-and-white foliage plant—in both of which all the leaves are a pure golden white. It is possible that they will live, and the type become fixed; but albinos, in both plant and animal life, lack stamina and virility, and therefore I shall not be surprised if these prove to be weaklings, although they appear, so far, perfectly normal and healthy. But the plant breeders, even the big fellows, expect many disappointments and failures: out of hundreds of seedlings they are thankful to get one that is a real improvement. So we, who can get our reward in the fun of the thing as we go along, can afford to have patience. Such work will at least shed a new and a more illuminating light upon our gardens, sun-lit though they have been before. It will bring us into more intimate relationships, and finer appreciations.

As an inspiration to you—to say nothing of the opportunities afforded of adding some of these beautiful new things to your garden—let us take a look at some of the wonderful recent achievements in the evolution of flowers.

Everyone has heard of the grand new Spencer sweet peas, with their delicate self-shadings and marvelous size, but do you know of the double or duplex Spencer? You have probably grown some of the gorgeous new hybrids and named varieties of gladioli, but have you yet seen a ruffled one? Who does not remember the



Dahlia blossoms tied up after fertilization from another flower to produce a new type

advent of the Crimson Rambler—but are you aware that it has been surpassed in its own class; and that such grand roses as American Beauty, President Carnot and Kaiserin Auguste Victoria may now be had in climbing form, thus giving both decoration and bloom for cutting, on good stems?

There is no annual flower which has been developed more rapidly during recent years than the sweet pea—our grandmothers would hardly recognize some of the latest productions of the hybridizer's art. The new duplex type, especially, is different from any of its predecessors—called “duplex” rather than double because several years ago another double strain, which for several reasons proved unsatisfactory, was tried and then dropped by most seed houses. In Pearl Gray a new color has been attained. The dwarf Cupid, growing less than a foot high and over a foot across, and blooming freely, should be more extensively known, as it is available for many places where the tall sorts could not be used.

A great improvement has been achieved in tuberous begonias in the Wundulata type, with its ruffled and fringed edges, giving these beautiful flowers an additional charm. Among the fibrous rooted sorts, the new double Vernon is very striking. Begonias, especially the tuberous rooted sorts, are too infrequently seen. If you have not yet grown them, you are missing one of the best flowers in existence.

Another long-unappreciated flower is the *Antirrhinum* or snapdragon, one of the most lasting and beautiful of all flowers for use in vases. The new half-dwarf strain, growing less than two feet high, should result in making these more popular. There is also now a double strain, attractively fantastic, but I think the “singles,” if one may so describe them, more beautiful, for the unique dragon's jaw formation of their flowers is part of their peculiar charm.



Every year sees new additions to the already beautiful and appreciated gladioli

Salvias are usually thought of only as red-flowered border plants. Did you know that they can be had also in an attractive rose, in yellow, white, and a new blue, with much larger flowers than the old *S. Patens*? What would be more interesting in your garden than a bed of these several sorts? And as salvias come true from seed, here is a fine chance to try a little hybridizing.

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The Spencer type of sweet pea has been developed to have larger blossoms and more brilliant coloring—Pearl Gray is a new shade



As permanence was one of the chief attributes sought for in the garden, the shrubs that are hardy were chosen first, and even at the entrance tall peonies, elders, and many other bushes made a compact mass either side of the path

A Garden Living-Room

HOW ONE MAN ADDED TO HIS HOME WITHOUT BUILDING—AN OUTDOOR RETREAT THAT HAS THE BEAUTY OF SHRUB AND BLOSSOM AND THE PRIVACY OF A STUDY INDOORS

BY JAMES M. HULL

Photographs by the Author

IT has always been my desire to have a garden, not the kind where rare, tropical luxuriance abounds, or even where the finest blooms are found; simply a garden to live in, a place to enjoy the full pleasure of blossoming plants, where I might retire with as much privacy as to my study.

A few years ago my desires took active form, and we moved to a new home, so I set to work at once at making our outdoor living-room.

The available space was small, only 26 by 64 feet, but I went ahead, keeping in mind that it was to be a picturesque garden, one that was secluded, effective from all points of view, and with an abundance of flowers from early spring until frost.

I worked away at plans and eventually got results. Each year I see where I can make improvements



Around the border are placed rough stones to give a basis for moss pinks, phlox, and sweet alyssum to grow over. These blooms follow the early bulbs

and add to the completeness of the place, but I think I have succeeded in satisfying my desires.

To get the desired effect, I left the central part grass and made the sides and ends irregular. The next problem was the fence, which was very ugly; this I hid with vines, shrubs and a few trees. As I wished a permanent garden, I chose shrubs, vines and perennials, and the most hardy I could find. The first year I filled in with all the wild flowers I could gather and spent many pleasant and happy days in the woods and marsh and on the mountainside. We brought home roots of daisy, aster, goldenrod, ferns, lilies, phlox, violets and many others. These were for temporary, immediate effect, but I have retained some of them permanently, they are so effective and beautiful. The border shows all these flowers charmingly intermin-

gled with long plumes of larkspur or spear-like leaves of iris and dainty golden stars of coreopsis. With a background of climbing roses, shrubs and vines, the garden is an individual one, embellished and beautified with comparatively simple means and a few hours' work every day—chiefly in the evening.

Since the garden had been planned and planted as an outdoor living-room for the summer months, its gradual development brought up the question of permanence, artistic arrangement, harmony of color and the lengthening of the flower period.

Beginning in April and early May, I have the most hardy

tal poppy, and valerian. The majestic lilac and blue delphinium are prominently placed, as are the clusters of Canterbury bells, in blue, white, and purple; rich red, white, and pink phlox; yellow heleniums and Oriental poppy. Violent contrast is avoided by painstaking arrangement to effect color harmony.

When early plants are through blooming I fill in vacant places with annuals. And with the help of these annuals the floral procession keeps up and on until the end of the season.

And now when the garden has matured and all the boundaries are hidden by trees, shrubs and vines, we have come unto the



The garden living-room is a grass area, irregularly bounded by a wealth of flowers, shrubs, and trees that grow up, cutting off an unpleasant view on one side. In obtaining immediate results at the first time of planting, wild flowers were brought in from the fields. Some of these proved so desirable that they have been retained

spring bulbs coming in bloom—tulips, narcissi and daffodils, which are good for cutting for the house. They are planted between the perennials, a little back from the edge of the border, as they are past their bloom before the others are much grown. The border is edged with small boulders, between and over which grow moss pinks, June phlox, sweet alyssum and forget-me-nots. These help to keep the edging brilliant from May to October. Next to the fence there are roses, shrubs, vines and tall plants, such as sunflowers (hardy), hardy delphiniums, hollyhocks and hardy asters; then come the smaller plants, aquilegia, Canterbury bells, heleniums in variety, iris, monarda, peonies, phlox, Orien-

tal poppy, and valerian. The majestic lilac and blue delphinium are prominently placed, as are the clusters of Canterbury bells, in blue, white, and purple; rich red, white, and pink phlox; yellow heleniums and Oriental poppy. Violent contrast is avoided by painstaking arrangement to effect color harmony.

Many visitors come to enjoy it and depart with fresh inspirations, as they see the shelter and seclusion that the family are enjoying—that is what the garden was planned and planted for. We have really made an addition to our house and that without building, and what is more it has done much to contribute toward good health.



Mr. Calvert's Hampton house is called a bungalow, but the reference is toward its informal treatment aimed to produce the maximum of comfort, and not toward the architecture

THE HOME OF MR. GEORGE H. CALVERT, HAMPTON TOWNSHIP, PA.



The gray stone house is set upon a woodland knoll and from the incurved front has an extended view



This house is an example of a summer home that refutes the idea that the log cabin is the only style that suits the woods



The living-room has a plain finished woodwork that gives a bold, generous effect, and invites to easy comfort



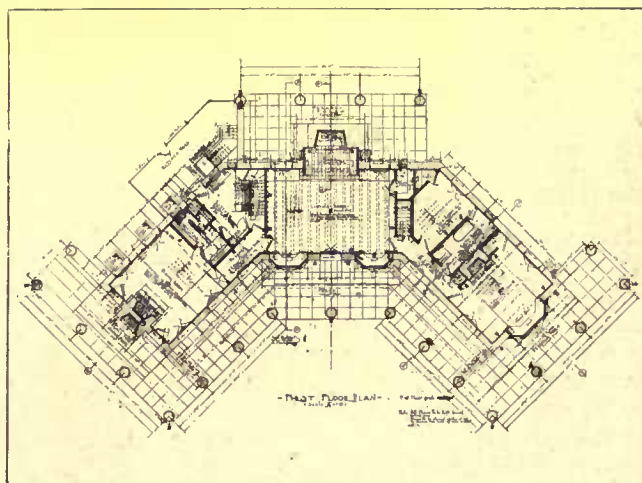
The dining-room is simply furnished and carries out the camp idea with a large, rough stone fireplace



A feature of the library is the bay window with its attractive treatment of square-paned casements



The pergola about the house is a unique feature, but calculated to give just the right amounts of shade and sunlight



The plan is very unusual with the two flanking wings. The living-room occupies the entire central portion



Inside the House

Timely Suggestions and
Answers to Correspondents



The Editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope.

Brightening a Somber Piazza

THE somberness of a dark piazza may be gratefully relieved by the use of willow chairs in their natural state, with cushions of bright crimson. The combination of the fresh willow and the red gives a suggestion of cheer and sunshine which cannot be evaded, no matter how gloomy the day or the individual.

The bright red cushion in the white or green enameled chair is even a little more startling than in the natural willow, but very inviting and cheering. The large flower patterns in chintz have superseded the more modest designs, and all the patterns show roses and other flowers several times enlarged from nature's dimensions. These flowered chintzes seem most appropriate trimmings for the natural willow and reed furniture, as their colorings are apt to be quite exact reproductions of nature.

For use indoors, willow and kindred furnitures are now tinted to match any color scheme of the walls, and the choice of cretonnes is so large that harmony is assured, whether the choice be in warm wistarias, mellow browns and yellows, or bright roses.

A Casement Window Device.

I HAVE in a measure solved the problem of casement windows in our house at Lawrence, Long Island. About eighteen months ago we built a sun parlor as an addition to the house, which room is about 28 x 12 feet. The casement windows swing out and are fitted with Chamberlain weather strips, making them completely weather proof. The screens are on the inside and in one piece, reinforced in the length and breadth by metal strips.

The architect, after some study of the problem, decided to have the screens work on slides, the same as the ordinary two-piece screen, and when raised they disappear into the wall between the top of the window and the ceiling of the room.

Ours is an old-fashioned house built about 150 years ago and as most of the ceilings are low, we would not secure more than about fifteen inches of head

room. When the screens are raised, however, this opening of fifteen inches permits the casement windows being unlatched and opened or closed. The casement windows are opened and closed by means of a metal arm, which allows adjustment with a thumb screw.

It is no doubt possible in building a new house to allow for more space so that the screen can be raised at least two feet, which should be ample for all purposes.

The Piazza Tea Wagon and Table

THE willow tea wagon for piazza parties is preferred to finished wood, for willow is in its natural state and not subject to the changes of air and temperature to which other varnished woods in time succumb. Under the glass top should be a strip of chintz to match the chair cushion.



The shape of every tool is painted on the wall, so that each implement has its particular place

ions. The piazza table of willow or reed is vastly more useful if provided with a glass top to fit, under which is a mat of the chintz. Another and more original method is to have several neutral toned under pieces, and to arrange one's own decorations from nature. Flowers and leaves will press very gracefully under the weight of the glass, especially if the background is mounted on cardboard to counteract the corrugated effect of the willow work. Grasses and grains may be most effectively arranged on these neutral silk or satteen pads, and preserved by the glass for some time.

Keeping Track of Tools

DIFFERENT tools are frequently lost or mislaid by the workmen using them, and considerable annoyance as well as expense is the result. One of the most successful methods of lessening this inconvenience is used by the owner of a country place where several workmen are employed.

On the wall of the shed where the various implements were kept this man painted the outline of every kind of tool and at the top of each figure a spike was driven. A number was then assigned to every man employed and all the tools he used were stamped with it. After the day's work the men were required to hang the tools on the spikes over the corresponding paintings, so that a glance along the wall was sufficient to show what implement, if any, was missing, and who was responsible for it.

This is a practical plan and can be recommended where comparatively few tools are used. Where larger numbers are to be considered, it is advisable to employ a caretaker.

The Uses of Cheesecloth

WHETHER has a cellar, a stable, a garden or a chicken house should be told the manifold virtues of cheesecloth. Frames covered first with chicken wire, then the cloth tacked tight over them, let in light and air, yet keep out dust and a modicum of cold. A three-foot running

frame at the top of a glass fronted fowl house saves expense and helps wonderfully in ventilation. Stable windows and those of cow barns should be filled with cloth-covered frames as soon as the weather is the least bit mild. Thus flies and most of the dust are barred. Thus, also, there is no sweating or steaming as with glass, nor the holding of ill odors. Cellar windows ought to have the cloth frames inside their bars or wire gauge. In the garden small tents of cheesecloth are the handiest protectors from frost and frames of the cloth and netting are better than sash for sheltering plants in hotbeds or coldframes, as they give air and save from sunburn.

Reducing Water Pressure

A WATER pressure reducer is coming into extensive use these days and rightly so. Its cost is small; one can be purchased for about \$10 which will give good satisfaction. The ever-increasing water pressure which one now finds so universally, makes some device of this sort necessary if economy is sought after. High water pressure makes much trouble in the household. Of course the reason for the increase of pressure is usually fire protection. This is of value, but if care is not taken (and so many householders do not realize how much money can be wasted by excessive use of water) to prevent needless waste, water bills will make quite a hole in the careless householder's pocketbook. Let us now consider a typical case:

Mr. "A." had received a large water bill for the size of his house. Complaints to the company simply resulted in his learning that the meter was registering correctly. He was merely using water which must be paid for. He called in his plumber, and acting upon his advice installed a water pressure reducing valve. In only six months he reduced his water bill one-third. How is it done? The pressure reducer controlled the pressure. Before using it, if a quart measure in the kitchen was to be filled, another quart or more was wasted by high pressure, making the measure overflow. Any amount of water was thus wasted in the daily household tasks. But this was not all. High pressure makes the "ball cocks," which we all have to use in our homes, operate improperly. The valve seats are injured by being subjected to a very high pressure. Then leakage results and water runs to waste, often without the knowledge of the householder. But more

than this, all piping is subjected to an undue strain, and plumber's bills are large. If the house has no tank, a large strain is also put on the kitchen range boiler.

A Screen That Acts as Wardrobe

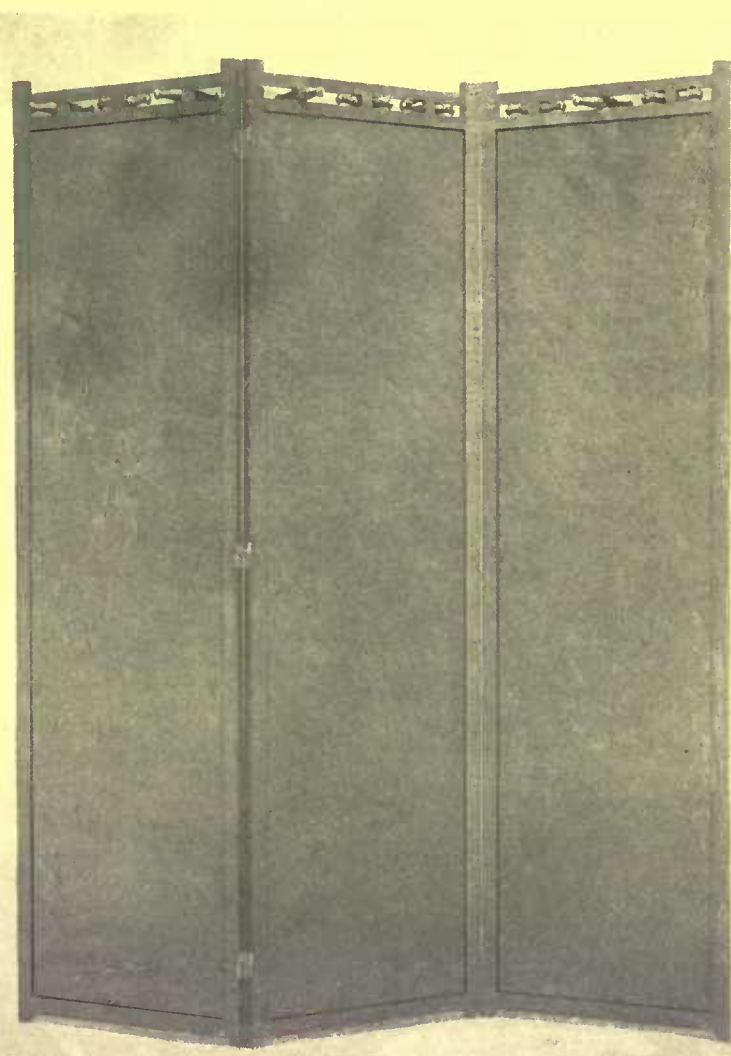
THE unsightly clothes tree has a rival; or rather succumbs to the greater usefulness of the "wardrobe screen." Most people object to hanging their clothes away in a closet immediately on removing. It is those people, as well as the ones who have insufficient closet room, who are given to using the clothes tree. The screen which now takes the place of the tree is a practical screen for every purpose to which a screen may be put. On the face of it, it is a good, comfortable, useful-looking burlap-paneled screen, with oak or imitation mahogany frame. The screen stands over five and a half feet

wooden pegs, as you can see in the picture, which turn at will into clothing pegs *on both sides of the screen*, making eighteen available pegs which will support a quantity of clothing—heavy weight articles at that. When not in use the pegs may be turned parallel to the top of the frame to make the proper trim. How much more sensible than stringing one's things over chairs at night; and how useful to keep hanging on the "other side" any articles which we wish to expose to the air of the room by day.

The burlap covering of this screen should of course be of such a color as to harmonize with the room where it is to be used.

A Carpet Suggestion

IT is sometimes a problem to know how to carpet a floor in a room where a great many colors are used, as often happens, for we cannot always have things to our liking, and get rid of all the accumulation of years, especially in an old house. Then, too, we are sometimes obliged to put up with a wall paper that is already in a house or apartment. This, of course, does not happen when we are doing the house over to suit ourselves, but when we are making the best of what is already there, a good many problems present themselves. What carpets or rugs to use when there is a heterogeneous collection of colors and objects in the room is one of these problems. A friend of mine solved the difficulty most satisfactorily by having rugs made of plain velvet or axminster carpet in the colors best suited to the needs of each room. Velvet and axminster carpets come as low as and less than a dollar a yard occasionally, up to almost any price that one cares to pay. These plain carpets may be had in very good colors, soft greens, tans, grays, browns, almost any color, in fact, that one could desire. In a room that has hangings and other furnishings of old blue, a rug of soft tan will be very satisfactory, and in the proverbial "girl's room" of pink and white, a gray-green rug will give good service, better than an old rose, and be a pleasing contrast. Another point in favor of these made-up rugs is that they may be made any size and



The combined duties of clothes rack and screen are successfully performed by this simple contrivance which has a row of pegs along its top for hanging garments

high with panels of generous width—about twenty inches—and is solid and substantial, although easily moved. So much for the screen, which may be used anywhere that a screen is desired. The wardrobe part is in the wood trimming at the top. Each of the panels holds three

shape that the room requires, and small strips, simply the width of the carpet, can be bound at both ends, to fill in a narrow space made by a jog in the wall, or a narrow entrance way. In fact, there are in almost every house odd corners where these small pieces can be employed.



Garden Suggestions and Queries



Conducted by
F. F. ROCKWELL.

The Editor will be glad to answer subscriber's queries pertaining to individual problems connected with the garden and grounds. When a direct personal reply is desired please inclose a self-addressed stamped envelope

May

IT is true that May brings the flowers. It is equally true—though one does not see it mentioned in the numerous little spring poems in magazines—that May brings *weeds*; weeds by the million! They come so suddenly that even experienced gardeners sometimes are caught. And when you once get behind the work of weeding in the garden, you are likely to be chasing it all summer, without ever catching up, and with severe injury done to your garden.

So whatever else you do this month, keep the garden scrupulously clean—without a weed in sight. I never realized the importance of the weed question—how many golden garden hours are wasted by putting off the dreaded task until to-morrow, when it will only take much longer—until I attempted to grow onions on a large scale. Now we try to make our rule, as far as possible, never let a weed be seen! Here is the method used:

In these days practically every garden is planted with a seed-drill, which leaves a narrow, plain mark where the roller passes over the row. Instead of waiting for the plants to come up, before beginning operations, begin a few days after sowing—just as the first weed seeds are sprouting, if possible. Put the "disc" attachments—you are only wasting time and money if you try to get along without them—on the wheel hoe, set them at a very slight angle, and shave up just as close to the row as you can get. This will leave a slight depression each side of the row. Then examine the rows frequently, and after the seeds have sprouted, but before they get quite to the surface, you can put on the hoes, and by going very carefully, just skin under the surface of the rows themselves, not going deep enough to cut the seed sprouts, but destroying thousands of little weed seedlings which otherwise would have to be pulled one at a time by the fingers. Then put on the rakes, or hoes, whichever seems to work best, depending upon the condition of the soil, and go through between the rows, leveling down the slight ridges left by the discs. By following out such a system as this, adapting

it of course to your own requirements, you will save yourself many hours of the most tedious work there is connected with the garden.

With all these precautions, however, some hand weeding will be necessary. Do not shirk it; delay only means added labor. Save every precious hour of your garden time you possibly can for work that will show results in beautiful flowers or fine vegetables, not merely wilted weeds.

The Summer Blooming Bulbs

FORTUNATELY, however, weeds need not take up all our attention this month. An important group of plants quite generally overlooked is the summer and autumn flowering bulbs that can be planted in spring. With cannas and dahlias, of course every gardener is familiar—and yet it is remarkable how seldom one sees any of the new beautiful "orchid-flowering" cannas, which are as distinct from the old foliage sorts (Indian Shot) as a rose is from a blackberry briar. New dahlias make progress more rapidly,

because at present there is a dahlia craze raging—and justifiably so. Next to these, but not quite so well known, although it certainly deserves to be—is the very easily grown gladiolus, an ideal flower for cutting, as the wonderfully beautiful blossoms continue to open out one after another, for a week or more after the stalk is cut and put in water. Gladioli bulbs are now extremely reasonable in price, and as they can be kept for several years, indefinitely if one will but take the trouble to save the new bulbs produced, there is no possible excuse for the gardener who does not have a good quantity of them on hand. Certainly, after once trying a few of the many magnificent new sorts, he will never again be without them. Plant as early as possible, putting the bulbs at various depths, to prolong the flowering season. If exposed to winds or beating rains, support by light plant stakes.

Other glorious flowers not used nearly so much as they should be are the improved Japanese lilies. The best known of these, the Golden-rayed lily of Japan, *lilium Auratum*, has long been a favorite, but even this sort one finds comparatively rarely.

Speciosum, and its several forms, especially the new immense *magnificum*, are, if possible, even more beautiful than *Auratum*. The points of successful outdoor lily culture are a well-drained position, given by slightly raising the beds in a base, small stones or clinkers, and winter protection. Plant several inches deep, and as a precaution against rotting, cover the bulb in sand before filling in the soil.

One of the most showy of all bulbous plants that can be set out in spring is the montbretia. The flowers, which are borne in long spikes, are star-shaped and very large. They are quite hardy, and increase in beauty yearly.

Tuberous rooted begonias, while not strictly "bulbs," are too valuable to escape mention here. The tubers may be planted outside in May, but it is more satisfactory to get plants already started in pots, as they come into bloom much sooner.

The crinums, with their enormous



It is not too late to hasten the maturity of certain vegetables by forcing in pots under glass

amaryllis-like flowers, and the Mexican frost flower, *Milla Biflora*, with its waxen, pure white flowers, are also easily grown, and well worth while. The shell-flower (*Tigridia*) is very popular.

Not less important than the summer bulbs, and if anything, more frequently overlooked, are the several annual climbing vines. Of course, we all have morning glories, and maybe one or two other favorites, such as the scarlet runner bean or the fancy gourds. This year surprise yourself, and some of your friends, by the effects to be had with one of the new *Dolichos* (hyacinth bean) "Darkness" or "Daylight," or the new variegated Japanese hop, a remarkably beautiful and quick-growing climber of the easiest culture. The cypress vine, especially the new Scarlet Ivy-leaved variety, is a graceful and quick-growing vine. *Cobea Scandens* has beautiful blue flowers, borne in the greatest profusion; the seed should be set in edgeways, and not covered deeply. The new moon-flowers are much earlier than the old type, thus making this most attractive climber available for the more northern States, even when sown outdoors. The canary bird vine (*Tropealum*) has flowers of a rich canary yellow, very fantastic in shape, and it is easily grown from seed. Why not take an hour to make a simple trellis or two, and try some of these? The seed costs only a few cents a package.

Early Spraying

DO not let your work in flower and vegetable garden take your attention entirely away from the fruit trees. Apples should be sprayed before the blossoms open, with Bordeaux for "scab;" and by adding arsenate of lead, you get the bud-moths also. On cherries use Bordeaux for leaf blight before blossoms close and again when the fruit forms. On pears, for scab, before the blossoms open. For oyster shell scale, on any of these use kerosene emulsion as soon as the new brood, minute white lice, is hatched out. (For directions as to mixing Bordeaux and kerosene emulsion, see the articles in the April and June, 1911, issues of HOUSE & GARDEN.)

A small compressed-air sprayer, which can be bought for a few dollars will enable you to apply any of these sprays easily and thoroughly, and will, moreover, be of endless use to you in the vegetable garden, and for spraying roses, hollyhocks, and other flowers that sometimes need attention.

Plant Flower Seeds this Month

MAY is the flower garden month. Seeds of annuals and perennials should be sown. In the great majority of cases far better results can be obtained by preparing a special seed-bed, and sowing in rows about four inches apart, and later transplanting to their permanent positions, than by sowing in the beds directly. Most flower seeds are very small, and need the

lightest possible covering—both in depth and materials used.

Toward the end of the month, if the weather continues warm, potted plants, such as geraniums, heliotrope, salvias,



Neatness and care in weeding go far toward producing a successful vegetable garden

etc., should be put out. In buying these, remember that you have a whole summer's blooming to prepare for, and select plants for shape and healthy condition, even if they seem small, rather than for size and any flowers they may have on them.

Try some *mass* planting this year. You



Burning the waste matter that accumulates in the garden is one way to prevent pests

will be surprised at the striking and beautiful effects obtainable with the simplest of flowers, such as zinnias, petunias, marigolds, portulacas, poppies, etc., planted in solid beds of one color, with a border of some lower-growing and contrasting color, such as sweet alyssum.

Two Handy Contrivances

A SCRAP basket made of three-foot poultry netting is a most convenient device for the home garden. All sorts of scraps can be thrown into it and burned up as often as necessary. The basket is made by taking two wraps of the netting and hooking the cut ends in the wire, making a cylinder perhaps a half yard or more wide. It can be easily staked down in any handy spot to burn the rubbish. It is not only the quick disposal of small scraps and the constant keeping of the garden in a neat condition that makes this contrivance valuable, but also the fact that diseased portions of the plants or leaves that are attacked by insects can be so easily made away with in this manner. Everything dries out quickly in this basket, for it is open to the breeze. The contents are easy to burn and the basket none the worse for the blaze. The ashes left from the burning are useful in the garden.

Many amateur gardeners do not undertake the raising of Dutch bulbs because of the mice. Bulb lovers may have these flowers in spite of the mice if they want to take the trouble to plant their bulbs in a cage. A piece of strong netting, with a small mesh, can be bent to form a box-shaped trough. This can be made as long as the row is wanted. The earth can be thrown in, the bulbs planted, and a narrow strip of the wire fastened to it as a top, and the bulb bed will be mouse-proof. At the same time, the wire does not interfere with drainage or any other natural condition.

About the Vegetable Garden

DURING this month the first plantings should be made of wrinkled peas (if not sown in April), potatoes, beans, corn, cucumber, melons, pumpkin, and squash; and, as soon as danger of frosts is over, set out tomato, pepper and egg-plants.

It is not yet too late to hasten the maturity of muskmelons, corn, lima beans and cucumbers by planting in paper pots, or on sod, and starting them under glass or in a sheltered place, several weeks before they could be planted in the open garden. By this method the roots are not disturbed in transplanting, and the crop is not only earlier but much more certain than that planted outside.

In planting all the vine crops, and also with tomato, peppers and eggs, it always pays handsomely to prepare the hills by enriching them at the bottom with old, thoroughly rotted manure, and after working this in well, to mix in nearer the sur-

(Continued on page 65)



EDITORIAL



A GARDEN INITIATION

WITH the first burst of gray down on the brookside willows comes a strange stirring in the breasts of most men. It is evident in many unwonted actions—a sleepy irritability, long periods of silence, or suppressed excitement. With some of us it is premonitory of the time for our real recreations. The fisherman needs no calendar to advise him of the date when the law goes off—he feels its approach. The garden enthusiast would be possessed of his strange seizures were there no flood of optimistic catalogues to remind him. When the time comes for action both are off and away as runners released from their tense expectancy by the starter's pistol.

And now the season is here. If you are a gardener, you are as deep in your pursuits as the angler is in his brook. If you are not either, your associates are possibly thinking of a way within the law to exterminate such an ugly, unbearable person as you must be. For unless it is fishing or planting—there are few other alternatives—your spring freshened blood will go aboiling so that you will soon be as much a nuisance as a man unseasonably awakened.

In such a May mood gentle arguments such as Walton uses to prove the superiority of his beloved fishing over hunting or hawking will probably be of no avail. Nor will the enthusiast's proud exhibition of the product of his garden labors do more than fill you with scorn at one who can be so extraordinarily exercised over such trifles. Your description of his plants will probably coincide with that of George Fitch. "The plants which die first are the tomatoes. The plants with large leaves, out of which the worms make Battenburg lace, are cabbages. The plants with the soft brown bugs all over them are potatoes. The plants which come up and rush madly over the neighbor's yard are pumpkins, or squashes or cucumbers. The plants which come up tired and discouraged and need two quarts of water a day are lettuce. The plants which writhe about the ground in convulsions are peas."

But there is hope to civilize you by getting you acquainted with the garden's finished products, with the first full glory of May blossoms. The iris lances, straight and trim, will be flaunting their blue and buff banners in the breeze at the head of stiff marching regiments of tulip soldiers. You will find them uniformed in brilliant shades and flashing sun from satin petals. The hyacinths will be enticing you with their seductive odors, or you'll stop by the fairy-like little crocus people running over the new green lawn. And then the lilacs! If their Oriental fragrance does not stir your brain and make you long to possess, there is something wrong in your make-up, for there is a host of childhood recollections that the smell of lilacs brings crowding to most minds; you will want to make as much of it as you can. The snowballs, too, the sweet-briar roses, the azaleas, magnolias, and the flowering almond—will all be mute pleaders that beg you to plant them and love them for your own in Maytime. But if your heart is hard and oblivious to this appeal the orchard will capture you. It is like a dryad now, dancing to the gay melodies of spring, and with its white drapery floating out, quivering, and winning you to worship.

So out, either to the woods or planted rows and you will be tempted to try your fortune with the fall flowers or to set to work for next year. If you are already an enthusiast, there is much for you to learn for your own garden by making friends with the flowers of your neighbor. The gardens that are made from the most interesting names in the catalogue are often very disappointing. Nor is the art work of booklets an absolute index of what each particular flower will look like when it comes up in your garden. To find out the best arrangements of colors, the relative heights, and the flowers especially suited to your location, you must go garden hunting.

A RIOT OF ENTHUSIASM

IT all came about in the new renaissance. Up to that time the main street looked like the product of some titan machine of wonderful dexterity that had turned out two rows of olive drab buildings all of a size, and trimmed with exactly the same number of sawed-out scrolls and turned rings. But one *could* live along that street. Trim lawns or some plantings of shrubbery gave evidence of individuality and added attractiveness. So things had been for a long time, and the people seemed happy.

Then came the change. Mrs. See suddenly awoke to the fact that she was in the dark ages so far as the appearance of her home was concerned, and she set to work to advance. After reading and planning, she was determined. The family moved to the hotel, and down came cottage number five—by number was the only way you could distinguish them—and up went a very well designed white-painted, Dutch Colonial house. In spite of its decent modesty, it fairly jumped from its situation. As you went down the street thinking of nothing in particular you would reach Mrs. See's, and then wonder what had hit you.

Either because "that woman was not going to be allowed to put on airs," or because individuals were seized with the desire to improve their homes, the whole town was racked with the construction fever. One after another the houses were taken down and replaced by new ones. Sometimes, several were building at once. It seemed as though some strange fatality compelled everyone to put up a new house.

Although Mrs. See was the cause of the building revolution, she was not the example. Each household, as its time for upheaval approached, looked through building books, studied plans, consulted architects, and at last arranged themselves in the finished product, which was usually a house of excellent plan. The B's wouldn't dream of imitation, so their new home was of "craftsman style." The D's had been always original: they built a Swiss Chalet; the A's had once been to California, and their house was Spanish Mission. There were many other nondescript types, but none of them was duplicated. Finally Mr. G's castle was built. It was an exact replica of some European stronghold, in gray trimmed stone with great battlemented towers, and iron-barred windows. It was complete, all but the portcullis, and Mrs. G felt that the maid, Georgia, was a bit too frail to keep hauling that great iron thing up every time the bell rang.

There was little building after the G's castle; that was a little too extreme, even for this town. Everyone now began to view the work that he had been so busy upon. Most of the houses were very well done, and most were true to type. They were carefully planned and modest, but almost everyone bore an invisible stamp of good value upon it. But the street! Where it was once shy and retiring, it now was a true Babel, each place crying out in a different tongue, incomprehensible to its neighbor. Although you wouldn't put the finger of criticism upon one house, the effect of several together was horrible. The crassest nature could not be unaware of the discords.

Each man had been full of the enthusiasm of building something architecturally worth while, but made the mistake of thinking that that was the only consideration. They succeeded in making good houses, but forgot all about building in harmony with the surroundings. There are other things to consider besides style. If the fitness of things to the locality is neglected, good design is of no avail. The English can get individuality in a row of cottages that are almost the same; they care nothing for novelty. Co-operation is the one thing Jumble Town lacked; without it, its former state was ten thousand times to be preferred to its present.

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There we have compared some 200 fabrics, and some forty formulas for treads.

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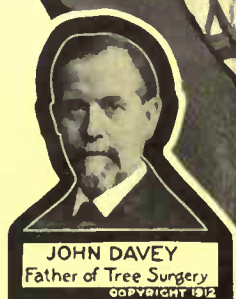
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A Better Room for the Children

(Continued from page 23)

bring the joinings in inconspicuous places, as at the edge of a print or in a corner. The glasses may be held securely in place by a molding at the top and at the bottom of the frieze or dado, as the case may be. The prints may be spaced in a number of arrangements, close together or far apart, one above the other, or alternating, and many or few prints can be used as the mother desires. The square prints cost 35 cents each, the panel prints, 75 cents each.

Instead of making the arrangement of the frieze merely a matter of color, the child may learn from the nursery decoration a lesson in natural history. One side of the wall might have prints of domestic animals, of which there is a wide selection of subjects, roosters and hens and chickens, ducks, geese, dogs, cats, and mice. Another wall might have birds of the fields and woods, another of wild animals, and the fourth wall the fishes and frogs. A story may be drawn from this object lesson, beginning with a stroll in the yard, venturing further into the field, and lastly losing one's self in the woods.

In fact, the story telling value of these prints is one of their principal charms, and the mother who knows and loves the best stories for children can weave innumerable delightful tales around these prints. Indeed, the decorating and furnishing of a nursery seem to me to be not only a matter of harmonious color, least of all a collection of strictly commercial things such as one often sees in the so-called "best homes," but an intelligent collection and arrangement of things that are going to be of lasting value in the development of the child's education and personality. Of course, the selection of the wall paper, the furniture, the rugs, and the hangings must be made intelligently and with an appreciation for harmonious color and line also, but this done—and it is a very simple matter—it takes more thought and more time to bring into this room the things which make for its real distinctiveness and permanent usefulness in the lives of the children.



The Useful Columbine

(Continued from page 24)

several years. By sowing seed each summer and bestowing upon the young plants the comparatively small labor of occasional weeding and one transplanting, a successful border of this charmingly dainty flower can be maintained.

I find all of the forms interesting. There is the frail *canadensis*, called by Maeterlinck "the sad columbine;" a lavender and white of much the same form grows in the Canadian Rockies and I brought seed of it from there. The low-growing and broad-flowered *flabellata*

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nana alba from Japan is another distinct form. The "common" Dutch-looking double, prettiest in white, and the "common" single, in pink, pure white, white tinted with mauve, and pale blue, I grow for the sake of variety, and a few of the darker purples and blues to accentuate the colors of the more delicate types.

The most beautiful are the very long spurred forms like *chrysantha* and *caerulea*, and the number of different colorings in these is astonishing. There is every shade of china blue and lavender blue in self colors and combined with white or purple, there is pure white, lemon white, and palest yellow, yellow shading to pink, and yellow and lavender, pinks and mauves shading to white.

I have noticed an interesting form among my flowers this year which is large and fairly long spurred with a semi-double corolla. There is also, for the first time, an exquisite flesh pink shading to palest yellow, somewhat of the *canadensis* form of flower, but more upright and taller in growth of stem and leaf.

Conditions here must vary greatly from those in New England, where an author writes that single columbines will, if sown early, blossom the same season. It was Bacon who called the columbine "commendable" and I think he was not wrong.



The Right Place for the Garden Arch

(Continued from page 21)

agination may make the foreground—all that lies this side of the arch—smooth turf, tangled wildwood, simple village street, or anything else that is distinctively different from all that lies beyond; anything will be better than the sameness that actually is. Be sure that whatever looks better in a picture will look better in a garden—which is simply a living picture.

The two arches made of spruce poles draped with hop vine, in the right-hand corner of the page, suffer from the same faulty treatment of approach. Here was an opportunity for doing, in a very informal way, what has been done formally in the illustration at the beginning of this article, but it is an opportunity lost. The flowers should have been confined to the space between the two arches—to a rectangle to which these would serve as entrances—or else they should stop outside the arches, leaving this rectangle between them devoted to something different. (When I speak of the rectangle between them, it is, of course, understood that I mean a rectangle lying to the right as one looks at the picture—where the flowers now are—and not simply the oblong space actually between the two arches, along which the walk runs.)

The second proposition to be considered is that an arch, giving distinction to the section which it adorns, must be placed in a section of distinction. It focuses at-



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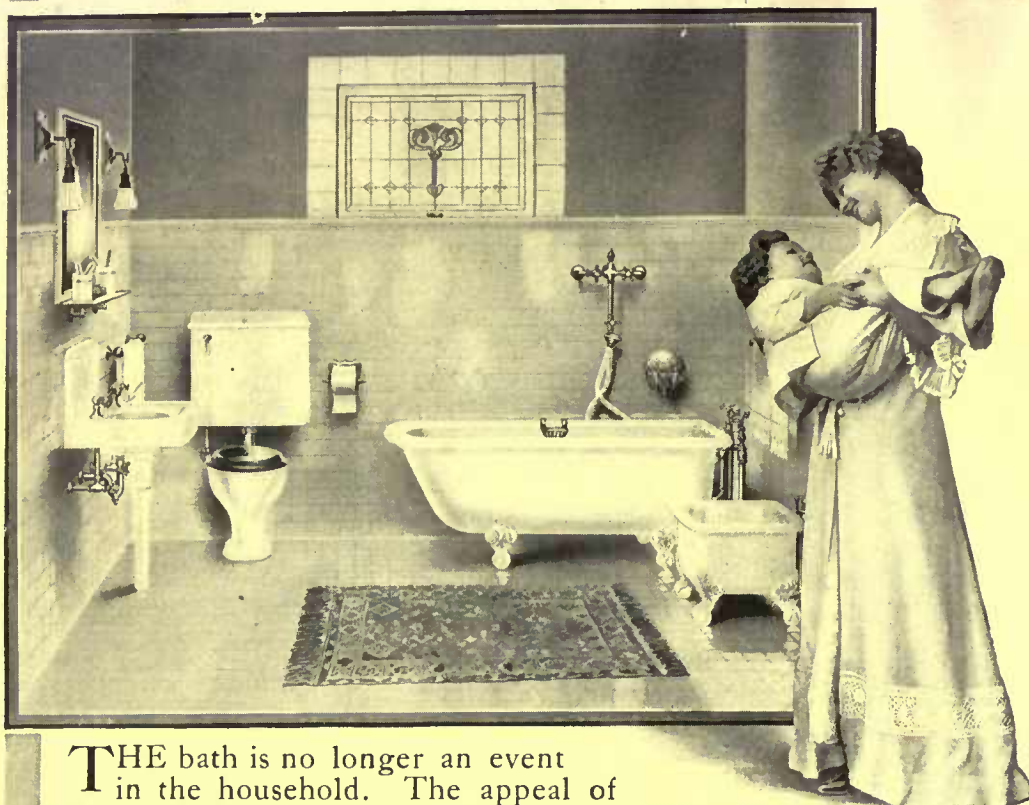
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tention upon itself and its environment, and the environment must live up to it. Therefore take heed to its location and see that it is made worthy. Spanning the opening from the garden into the stable yard, for example, it is unworthily placed, if it stands alone. (An arched opening in a wall or lattice is a different thing entirely and not to be considered as part of a discussion about arches.)

The latticed arch shown in the left corner of page 20, for instance, while presenting a charming tangle of vine and careless growth leading up to it, illustrates very well the manner in which the whole effect is diminished by carelessness at the focal point, through and beyond the arch itself. It frames—a vista of board fence! Glorified though it is with a lattice top, it is, nevertheless, just plain board fence; and it closes the prospect completely. Expectation and anticipation are cheated and disappointed, and half the beauty of the whole is lost. Not that board fence in and of itself is an objectionable thing; it would be quite as unsatisfactory if it were stone or brick wall. But if a seat invited the eye and spoke silently of rest—or better still, a seat and a table; or if a bird bowl stood there waiting its feathered bathers; or if a swing hung from the boughs above; if anything filled the hole—the blankness—how much better the effect of arch and tangle and all. So it is evident that an arch must be carefully placed, considering it from both sides. It must lead *in* pleasantly—and lead *out* just as pleasantly, for it draws attention to it and through it from either side. Always keep this in mind.

Passing from the isolated structural arch to the series of arches sometimes used in gardens as rose supports or supports for some flowering climber, the same generalizations hold good. A succession of arches should lead from one distinctive space—or through one distinctive space—to another, equally distinctive but quite different. The garden shown in the last photograph on page 20 illustrates such a transition, yet does not present a very happy result, for a number of reasons. The most readily discerned of these is the expanse of greenhouse running across the prospect—closing it—and cut into by the second set of wistaria-covered arches beyond the fountain. This is really a dreadful piece of composition which cannot be too completely condemned, for everything about it is wrong.

How and why? Well, in the first place, the second set of arches lead the eye in from the broad expansiveness of the open space about the fountain, and thus suggest—yes, demand—a focal point beyond themselves. But the greenhouse, so far from furnishing such a point, spreads out, with not even a doorway—which would be some relief—at this actual center; and thus the mind or soul or whatever it is that gets these impressions for us, is zigzagged along and confused and utterly wearied by the disorderly progress—by the lack of purpose, of coördination

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in the scheme. It is like jumping a lot of mental hurdles—only instead of rising up they go from side to side, and one must jump sidewise—which is dizzy work.

This same shiftiness is present in the light and shade. The two sets of arches offer partial shade; the open center, fountain and basin of water—presumably there is water in the basin—give the fullest light; and the greenhouse beyond again gives the same. Two such areas of high light are contrary to every principle of composition. What is the remedy in this particular instance? Let us see. It is in either the elimination entirely of the wistaria arches, thus throwing greenhouse and basin all into one large expanse of unbroken high light; or it is in the removal of the greenhouse and the extension of the wistaria arches back until the shadow of the background planting is reached. In other words, the two sets of arches—the rose arches in the foreground and the wistaria arches beyond—should lead either from well planted shade into the bright light and open space of the center, or from an open brightness at the outer margin into an arbor or bower at the center more deeply shaded than they themselves are. If they cannot do this, it is no place for them; certainly it is no place for the farther set under the present arrangement, anyway.

Arches through a symmetrical garden are almost never a success unless they do lead into a central arbor or summer house, and even then the arrangement is doubtful. But if a central arbor is desired, floral arches should by all means furnish the approach to it. Such a treatment of a garden has the disadvantage of cutting it into two or four parts, however, and unless the area is very large indeed, almost any other plan is preferable.

But spanning a long and grassy walk in any part of the grounds, a succession of floral arches is good, providing the space through which they lead offers a distinctly different aspect from the spaces which they connect. This is really the one thing that always matters vitally.

Arbors, which are sets of arches fastened together with crosspieces, are, of course, only a step further than sets of detached floral arches; and they are governed by exactly the same considerations, as far as their place in a garden design is concerned. They are, of course, invaluable as screens, or as an enclosure for any area which requires such treatment, especially when their connecting strips are carried all the way to the ground on either side, as in the very delightful and graceful structure shown at the top of page 21. Here is as great perfection in garden design as there is imperfection in the garden showing the greenhouse, and a comparison of the two pictures will develop the merits of one and the demerits of the other amazingly. The long walk stretching away in the former is charming to look at, and inviting to travel, with its hint of leading to something at the far end; but the walk under the wistaria



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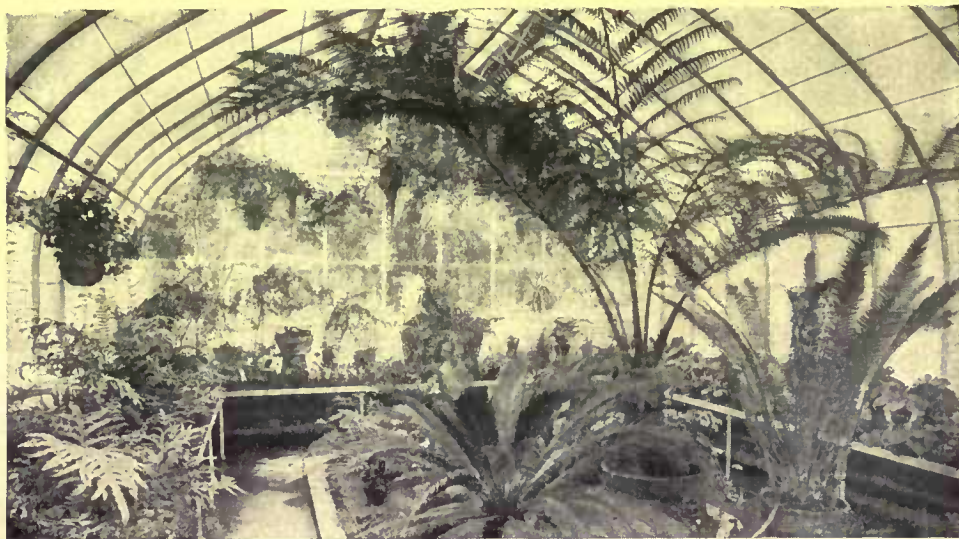


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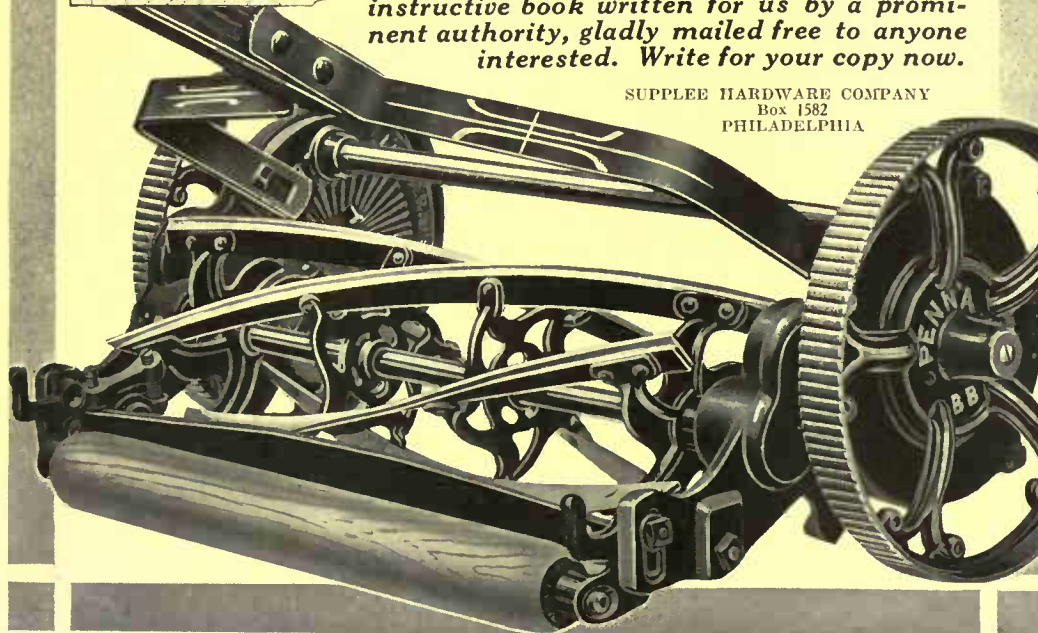
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arches suggests nothing in itself, and leads only to the bare greenhouse wall, where one cannot get in if he wants to!

These may seem small distinctions, but it is just these small distinctions that make a garden or mar it. Undoubtedly a great deal more money has been expended on the place which has the arches of wisteria and roses, than has been used in developing the quiet beauty of the "Governor's Garden," yet there is no comparison between them, except to the disadvantage of the former.

Arched gateways leading from the highway are almost unheard of in this day of fenceless dooryards, but some old Salem places show them, likewise many of the old homes in old Southern cities. And I doubt if a visitor, passing through one, ever approaches the dwelling which is thus dignified, without sensing that subtle difference which we rather clumsily express as the difference between ostentation and reserve. It is in reality a thing much more refined than that—an indescribable something as intangible as the scent of a flower, yet just as real—a something that is associated with the best traditions of the home. Are we losing it—can we get it back? Would dooryards and arched gateways help any, I wonder?



Reclaiming Old Houses

(Continued from page 29)

In the two extremes of the house, the attic and the cellar, one may look for trouble. In the former for roof conditions, such as bad roof timbers and boarding and a leaky roof. Naturally the latter condition has done more or less damage to the house interior; the wetting of woodwork has induced decay or that of plastering, a general weakening of the same. It may be that while the present condition of the roof covering is well enough, some previous state may have effected the damage above stated, so that it is well to look for evidence in any case. As to the roof boards, are they in condition to hold new shingles? This naturally suggests a point which is vital in considering the reconstruction problem of the old house. While an old bit of construction may hold together if undisturbed, having become from long association of parts and equal conditions of deterioration, as one mass, it is often a question if it will bear any attempt at rebuilding without great weakening or even destruction.

As to the cellar, apart from offering an excellent chance to ascertain the condition of the floor timbers, it is frequently the source of dampness. The question in such case is one of origin. Is the cellar so poorly ventilated as to effect this? Does it find its way through the cellar walls, or is it local? This last condition is often serious enough to make the abandonment of the whole thing advisable. It is

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not best to have a well in the cellar, but if your soil will permit of drainage it can be filled up. A spring, however, is a different thing. Better waste no further time with such a problem, unless the nuisance be small and the slope of the land sufficient to carry a drain under the house wall and clap a concrete bottom on the cellar. Unless the house appeals very strongly, it will hardly warrant this expense.

Not to be overlooked are the chimneys. They may hide untold evils, evils which may mean the total destruction of the house. This consideration is by far the more uncertain in a house that has stood idle and wherein the masonry may have had a chance for great deterioration, since it was last used. The entire rebuilding of a chimney under the usual conditions attending old work makes it an expensive job, and yet when the flues are of considerable size, as is common in the majority of old houses, one may get over the difficulty by introducing a circular metal flue and filling in about it with concrete. Of course it is understood that alterations are of two kinds—vital, and merely convenient. The chimney is decidedly of the former. One can tell much of the condition in the attic and cellar, where the masonry is exposed. A pointed iron or often a good umbrella stick, will determine whether the brickwork be in a soft condition or not. When soft bricks have been used they are apt to have suffered much from the invasion of water, and will sometimes crumble at the touch.

Having obtained a general idea of the interior we may pass on to the exterior. As a general thing old houses sat too low, and dampness and much of the evil of decayed sills have originated from this source. If your problem is one of these, will the structure stand raising a foot or more? Sills must be reasonably sound to do this without considerable expense. Perhaps a simple area and larger cellar windows may solve the problem.

Right here it might be well to state that much of the old look may have to be sacrificed in making the necessary repairs. Is it the weather-beaten effect or the general design that pleases? Weathering may not necessarily have led to decay. Often such effects may be preserved. Then, too, it may involve more expense to repair a comparatively complete and satisfactory design than to convert a sound example not so pleasing.

Near trees are often valuable to the general scheme, and serve more than any other thing to relieve the sameness of an otherwise barren composition. Their shade, too, excels all artificial contrivances. And yet they should not be too closely set to the house, as they may induce dampness, and if overhanging the roof, the decay of roof covering and gutters. So do not fool yourself by such a leafy delusion; you may be obliged to sacrifice a pet ideal to gain the healthy conditions of light and air.

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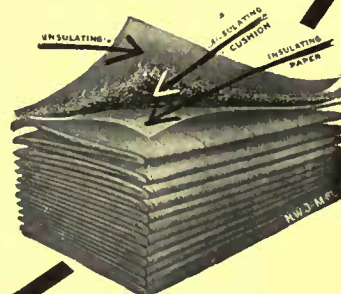
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moss-covered, make it a point to inspect the attic after a heavy rain. And remember, too, that a new roof and wall covering does not mean that what it hides is of necessity sound, but if the structure be plumb and true, the frame cannot be so very bad.

If you have discovered that your interior is insufficiently lighted, study your exterior to discover if you can correct this without sacrifice to the design. The bay and the mullioned window are not features of the simple Colonial design, although the square bay was frequently used in shop fronts, and in England, the three-sided bay. Sometimes the bay may perhaps be used, but it almost requires the overhanging second story—it depends on the local style and the amount of blank wall surrounding it. Colonial work was generally sparing as to glass, and windows were seldom crowded.

The foregoing seems at first glance to be considerable to consider at the beginning, but it is best if it can be done. One should have a general idea of the alterations, both of house and grounds, even at this stage. It is largely a question as to whether certain desired things are possible or not. The question of outbuildings should be given a passing thought as well as the house. Their condition and practicability if existing, especially in reference to their sanitary condition and location, means much. If they are yet to be built, their possible location should be determined roughly.

And now as to the general business method of procedure. First provide yourself with a pointed piece of iron about a foot long for the purpose of sounding beams, masonry, etc., also a lantern or pocket lamp. Presuming that your first survey is satisfactory, you should get a refusal of the property for a couple of weeks at least, in order to get the title looked up, and for this purpose get a lawyer, unless of course, you are an expert. In any event, the local lawyer, who probably has such things at his finger ends, is perhaps safer. If the title be not clear and cannot be rectified without time and expense, better drop it; future legal tangles are undesirable and altogether too near home. When the question of title is settled, make another inspection and bring a competent carpenter along. By this time you probably have a rough sketch plan of your first alterations. Don't let him run away with himself and with the idea that he is to find all the fault he can. Let him understand that if there is too much to be done you will not purchase. In any event don't commit yourself to the limit of what you will spend. Give him to understand that he is to give his figures and opinions that you may think it over. As to the price of the property, it should be borne in mind that a home is worth more to you than an investment; also that the property should have something to back it up, should you ever wish to put it on the market; it should be practical.

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While your lawyer is drawing up the deed, try and ascertain from the abutting property holders if the existing bounds are right; if so, they should be willing to sign a plan, and it would be well to get a surveyor to make a simple outline plot and get the abutters to sign it, to the effect that the bounds as shown on the plan where abutting their property are correct. Use a dark ink for signature and sign the list yourself to show your good faith. Take a couple of blueprints and file the original tracing in the proper place with the record of the deed. Having done this job thoroughly is the best start toward a home.

And now you are ready to take up the more serious consideration of practical restoration as a property holder.



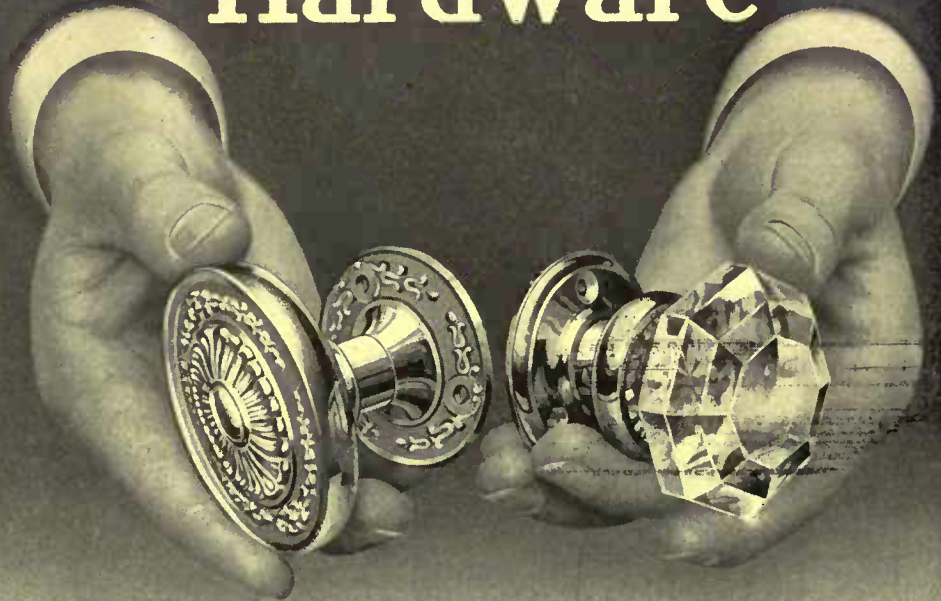
A Garden of Annuals (Continued from page 32)

other and many of them are supremely beautiful. If the "stand" is even tolerably good, it is astonishing how much garden space five cents' worth of flower seed can be made to cover with lovely bloom. Try it, say, with the white petunia or the African marigold and see what a wonder-worker a single nickel may be. Not that the nickel should be regarded as the basis for buying annuals. Novelties and the better strains of favorite kinds frequently cost a dime. They are cheap at that; so are the fancy offerings at a quarter a package. Generally speaking, the best seed should never be regarded as too good. In the end it is the cheapest and, as a rule, when named varieties or separate colors are desired it is necessary to go above the minimum price.

While the cost in money is not, or need not be, much to reckon with, the cost in pains is considerable. The time spent in this labor of love may be reduced to moments of leisure that are not missed, but there must be a liberal expenditure of intelligence. Easy as it looks to be, and is, the garden of annuals has to be thought out like any other garden—planned, planted and cultivated with the same degree of common sense; which is the prime essential in the cultivation of flowers.

The planning will be found least irksome if done betimes and on cross-ruled

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Concerning Injury to Trees Caused by Last Winter's Severe Freezing

TO appreciate just how serious is this injury, and why shade and fruit trees should at once be given skilled attention, you must first appreciate the condition of the roots when last winter's deep freezing set in.

For several summers the weather has been extremely dry, checking vigorous root growth. When last fall's unusually heavy rains came, the roots fairly gorged themselves with moisture, and immediately put out an abnormal quantity of soft growth. Before this growth could mature, the severe weather came and froze, not only the new growth, but also many of the older water-soaked ones. It is only logical then, that the remaining uninjured roots will not be able to absorb sufficient moisture and plant foods to properly nourish the trees. A balance between roots and branches should be restored. Skillful pruning, based on careful root investigation, is the remedy. This should be done as soon this spring as possible to prevent an unnecessary draining of the trees' vitality. This is particularly so with your old trees—the trees which money cannot replace.

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paper. A convenient way is to call each square of the paper—or every four squares—a square foot and measure off the available garden space accordingly. Then you have before you, in miniature, your garden area, but more easily comprehensible than the real thing. For the color scheme use a thin wash of water colors, after the manner of map-making. Number each flower, or variety of flower, that you intend to use and write the proper number, as many times as there will be plants, in the square or squares that the row or colony will extend over. Estimate the probable spread of each plant. Thus a space six inches square would be sufficient for a dwarf aster while four square feet would not be too much for a four-o'clock. Color can be what you will, but before selecting the flowers, season and longevity of blooming period must be taken into consideration. For these things some of the catalogues, fortunately, are an excellent guide.

Excepting in the case of a very few flowers, poppies for one, that do not take kindly to transplanting, the seed of annuals should be sowed not in the garden itself, but in a seed bed. Avoid the open ground, where so many seeds may not be planted until "danger from frost is over," and make use of a coldframe. Late April or early May planting in a coldframe saves about a month in time, the seeds show a better stand and, all along the line, there is less trouble. With some of the more tender but most beautiful annuals, such as salpiglossis and sweet sultan, early planting is the only guarantee of success. Thin out when the seedlings begin to show their true leaves and a little later transplant to another frame, so that sturdy not spindling plants will go into the garden. This transplanting is not always necessary, or even desirable, but where rapid growth calls for it the little time that it takes should not be grudged. See that the soil is moist before digging up the seedlings for removal to the garden, and before planting pour a little water into the hole. If it is not very dry weather, no further watering may be required, but a careful watch should be kept on conditions. Plant with the garden plan at hand and the work will proceed with amazing rapidity. Cultivate the soil frequently, especially if the sky is prodigal of sunshine and chary of rain, until the foliage pretty well shades the ground. Then annuals may be regarded as "laid by."

What the best flowers for a garden of annuals are, no one shall ever say and find his opinion unchallenged. One man uses only China asters in his garden of annuals. He says they are the best flowers, and there you are. Certain it is that a most fascinating garden can be made of China asters alone, and a highly colorful one, though its sole hue early in the season would be green. But one might as well try to say what materials are best for an artist to use. There are the annuals, hosts of kinds and most kinds multiplied by the

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various colors, and one has only to pick and choose what best suits the purpose in mind.

For edgings or low foregrounds, sweet alyssum, which blooms on after the frosts come, is the best white, and *Lobelia crinus* the finest blue. Verbenas, red, white, pink and purple; dwarf nasturtiums, red and yellow; *Zinnia Haageana*, various shades of yellow; French marigolds, yellow and maroon; calendula, various yellows; China pinks, red, white and pink; *Phlox Drummondii*, white, pink, red and pale yellow; globe amaranth, white and magenta; dwarf China asters, white, pink and blue, and dwarf petunias, pink and white, are all steady bloomers and very dependable flowers. Stocks, pink, white and mauve; China asters, pink, blue and white; zinnias, red, yellow and white; larkspur, pink, white and blue; poppies, red, pink, white, and mauve; *Salvia splendens*, scarlet; scabiosa, white, pink and maroon; sweet sultan, yellow, mauve and white; African marigold, orange and lemon, and *Nicotiana alata*, pink and white, are particularly good for the middle ground. Cornflowers, pink, blue and mauve; annual hollyhocks, white, pink, red and yellow, and cosmos, pink and white, give height to a background.

Broadly speaking, choose the long season annuals. Poppies and asters are exceptions, but they are complementary; when the poppies' brief glory is over, pull them up and plant in their stead asters that have been growing elsewhere. Discard sweet peas, as they are useless for garden picture-making, and vines unless they really fit in; the grounds may offer some better place for climbers. So with annuals that you particularly like for cutting, but do not need for the garden scheme. Put them in rows somewhere; they will not mind.



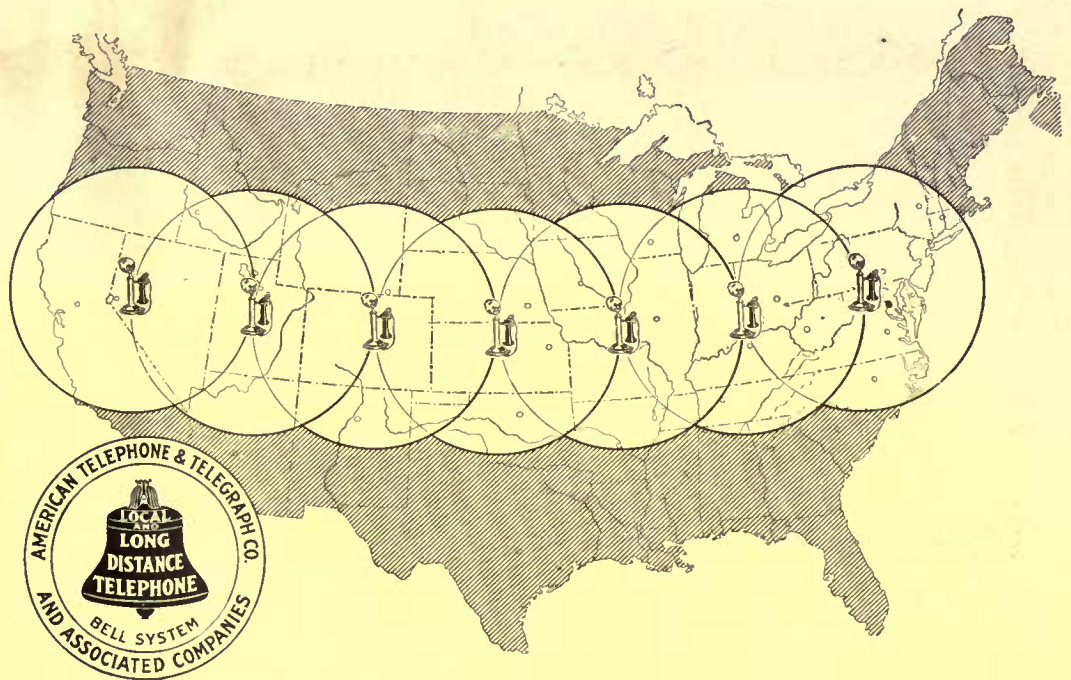
The Naturalizing of a City Man (Continued from page 34)

be more than you can use from your other field. Ground's too dry, anyway—seed won't come up. What did you put on for fertilizer?"

"Nothing—yet," confessed Mantell. He had ordered enough chemicals to mix up the formula given him by the State Experiment Station. These were to be shipped immediately from Boston, and he was assured by the local freight agent that they would come through at once, at that time of the year.

When they finally got the field finished off on the third, it was too late to plant, so that job was part of their Fourth of July celebration! On the fifth, the chemicals came, and on the sixth they mixed them, spread them broadcast, and harrowed them into the soil, with the Squire's Acme harrow, so that they were well mixed with the soil.

The weather continued dry, but in due season the tiny green sprouts pushed up



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through the dust, and made satisfactory growth. The Squire had not been told about the fertilizer, and shook his head dubiously.

"Fraid you've wasted your time, friend," he said. "Hungry crops never pay."

Mantell had heard from his wife quite vivid word pictures of the "haying time" of her youth—when mowing machines were still an innovation, and the extra "gang" of "help," the jugs of cider, the "molasses water" for the women folks and boys who could rake, and the dinner out-of-doors under the thickly leaved maple, all went to lend romance and picturesqueness to the great occasion. His head was still dimly full of such scenes on the morning that they got an extra early start for the Squire's, from whose wide acres the burring click of the mowing machines had been floating over to them for the past two days. He expected to find the place a scene of hustling men and teams, and a horde of extra "help." Instead of that, only one man was in sight, and he was leisurely hitching up a strange looking machine.

"You're early, boys," beamed the Squire, coming out and mopping his brow from force of habit. "The dew won't be off for an hour yet."

And so for an hour they puttered around in the big barn, helping the Squire put in a new piece of track for the hay-fork, replace some cable that was a little worn, and oil up a lot of weird-looking machinery. One would have thought they were preparing for a motor ride, instead of a big day's haying. Through the loft window Mantell caught a glimpse of the odd looking machine that had just left the barn, like a gigantic grasshopper, kicking the hay up into the air behind it.

But when they did start, the hay moved in earnest. The apparently flimsy machine that Mantell had helped to oil up was a "hay-loader," which picked the hay up from the ground and carried it up to the top automatically. And when the load reached the barn, instead of being unloaded a pitchfork-full at a time, as Mantell's had been, the "horse-fork" swooped down, seized hundreds of pounds at a "bite," hauled it aloft into the air, and then ran it back into the barn and dropped it.

It was no more like the haying of which he had heard than a trip in a motor truck was like a horseback ride through Robin Hood's Sherwood Forest. But to Mantell this was no loss. For him there was romance in every wheel and cam and lever that took the place of human bone and muscle, and enabled one man to do the work that two or ten or a score had done before. It not only excited his interest, but fired his imagination as well, and as he worked he pondered how, in unnumbered ways, machinery might open up possibilities in the science of agriculture, a science which, every day convinced him more firmly, was still in its infancy, still waiting to be given a share of atten-

tion by the world's brilliant thinkers somewhere nearly commensurate with its importance. In spite of the hard physical labor, he enjoyed tremendously the several days spent in helping the Squire get in his enormous hay crop, for grass was the Squire's biggest specialty, and he never tired of discussing the fine points of its cultivation with any one who could talk intelligently on the subject.

Of course not everything went smoothly. In spite of Mantell's care, the potato bugs got a big start in the large potato field. No one had told him how rapidly they could develop and while all his attention was taken up getting in the late corn, they did an amount of damage which probably equaled any profits to be gained from the corn fodder. As soon as the invaders were discovered they were reported by Robert and Helen, with no little excitement and exaggeration. The ever-generous Squire was called upon for help. He had only a dry powder gun, and said it would be no use to use it until the next morning while the dew was on. This did not suit Mantell, however, as he could see that another day's damage would double that already done by the fat, greedy "slugs." So the Squire gave him a note to a neighbor who possessed a "knapsack" sprayer, which fortunately he was able to get. While Mantell was getting the sprayer, Raffles and Robert and Helen procured two rain barrels and the stone-boat from the Squire, and got one barrel ready of the "soup," as the young folks called it, for the bugs. Mantell, with Helen to help him refill the tank without removing it from his shoulders, did the spraying, and Raffles and Robert drew water, a half-barrel at a time, mixed the poison, and replenished the "soup" barrel. After the first half acre, Mantell and Raffles changed places, and again after each succeeding half acre, so that the field was covered in record time. By the afternoon they had the satisfaction of seeing many scores of little toes turned heavenward in the furrows and around the stables, and the potato crop was saved.

The winter squash they were not so fortunate with. These seemed to be doing splendidly, and had attained lengths of from six to ten feet, after great pains had been taken to fight off the big black squash bugs—when suddenly they began to droop and die in the middle of the day.

"The borers have got us," said Raffles helplessly.

One by one the robust-looking vines "went down," and in three days hardly a one was left. It was disheartening, and in the stem of each could be found a large, white, soft grub, which had done the damage. Robert gathered up the vines, each day, and deposited them in the hen yard, where retaliation was meted upon the miserable intruders, but that was small redress for the harm done.

While the Squire's teams had been busy with Mantell's and his own haying, his potatoes had not been cultivated, and the day that Mantell was hunting up a



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weapon with which to fight potato bugs, he had stopped, as he passed, to investigate the work which the Squire's man was doing with his old-fashioned cultivator. The field certainly looked finely, especially where it had been worked; but the broad teeth of the machine, with nothing to regulate its depth, ripped up the ground for several inches deep, especially where the man bore down a little on the handles, as he was prone to do. Mantell watched thoughtfully. That field of potatoes certainly looked well; it was undoubtedly ahead of his. Could it be that all the theories he had been acquiring about surface cultivation were, after all, incorrect? He decided that the next time he went through his own he would do ten rows deep, just as an experiment. There had been no rain for several weeks, and the dark, moist earth the Squire's cultivator dug up certainly looked good.

"There doesn't seem to be a single positive rule in this whole farming business," Mantell said to himself, as he passed on.

Then he fancied that a bird in the roadside thicket answered "Right-oh!" "Right-oh!" and laughed to himself, as the hot sunshine beat down upon his bare, tanned neck and arms, and the white road before him. Puzzles, problems, disappointment and all, it seemed many times better than the rush and odors and clangor of the city's streets, which he had known so long.



Homes that Architects Have Built for Themselves

(Continued from page 19)

ness is apparent. In the pantry there is a built-in refrigerator level with the wall which allows the ice to be put in from the outside. Underneath a spacious china closet, a place is provided to hold the extra leaves of the dining-table. The kitchen appeals at once to the housekeeper, for it is light and attractive and heated by the furnace, so that a gas range can be used all the year round, doing away with the coal range and unsightly boiler. The laundry is in the basement, where there is a stove with waterback connected for heating the water used throughout the house. The top of this stove also serves for heating irons. A bathroom and toilet are provided in the basement. The kitchen and pantry floors are covered with a Pompeian red composition flooring put down in mastic form, and allowed to harden.

The second floor has three bedrooms, a bathroom and an unusually large sitting-room opening on to a balcony, distinctly pleasing and possessing some good architectural features. The walls are rough plastered, brown yellow, with float marks showing. At one end is a delightful alcove with a roomy divan. This alcove utilizes the space over the back stairs. Strong brown decoration is introduced in a wall

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hanging of Tappa cloth. The fireplace is severely simple with its Pompeian brick hearthstone and facing; the bricks are laid towards the room instead of in the usual way. The plaster models designed by Mr. Boyd, supporting the cornice, make a unique and interesting decoration. Bits of bright color appear in the coats of arms hung beneath the picture molding.

Adapting foreign things to everyday uses is a feature of Mr. Boyd's work. The keyholes of many of the closet doors throughout the house consist of Japanese sword guards. A carpenter's bass, such as they use in England for carrying tools, does duty for a wood basket.

The two main bedrooms are large and well furnished in mahogany with flowered chintz hangings. Both rooms have deep bay windows, in which are grandfather chairs covered in chintz to match the curtains. The paper is a two-toned French gray with the pattern of a basket of flowers. White spot muslin curtains cover the windows, but do not show from within when the brown Venetian blinds are lowered. The walls are covered with well chosen artistically framed pictures, hung in groups beside the bureaus. The mirrors are set in old-fashioned gold frames. Beautiful old rugs on the floor, rush seated chairs, and mahogany doors with glass knobs give an Old World atmosphere. Adjoining the front room is the night nursery. Here the walls are covered with canvas painted white, with a six-foot wainscoting of square tiles sunk in natural cement with quarter-inch joint.

The guest room is on the third floor; with its brick fireplace and old mahogany furniture it is a charming little room in Colonial style. There is an old-time Terry clock, an antique mirror framed in gold, a spinning wheel, braided mats, and a patchwork quilt. The walls papered with a rosebud paper harmonize with some dainty sprigged muslin curtains.

So much for the furnishings and planning of Mr. Boyd's home. It will be seen that he has constructed his house in conjunction with another. This is due to the exigencies of the city block. Mr. Boyd has provided against having a house of unpleasant architecture thrust right up against his windows and at the same time added to the appearance of the block. The planning is so well executed that both houses receive greater privacy than would be the case were they separated by the narrow margin of city lots and each looked into the other's window.

Mr. Boyd says: "The problem has often confronted me as to why it was not possible in our suburban sections where the price of ground with all city improvements is necessarily high, to build a pair of houses in such a manner as to retain individuality in each house and yet make a comprehensive unit design of both. With this end in view I designed the houses, the corner one of which I occupy, the other being used as an investment. The accompanying photographs show how successfully this has been carried out."



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The Evolution of the Tomato (Continued from page 26)

nature again asserted her evolutionary tendencies and produced a hybrid which, while maintaining the large size of a standard fruit, was decidedly elongated from stem to blossom end. Intelligent human effort has "fixed" this characteristic so that now we may enjoy those beautiful "Globe" tomatoes which the sunny South produces for us in great quantities during the winter months.

One fact is especially noteworthy in connection with the evolution of the tomato after mankind took hold of the problem, and that is: all the splendid modern types of this important fruit are due primarily to nature's initiative. Really serious efforts of breeders in crossing and hybridizing different sorts have often failed to accomplish in a decade what nature has frequently done in one season.

A single plant bearing improved purple fruit would sometimes be found in a field of bright red tomatoes. This plant the grower calls a "sport." "Chance product of nature" is a more comprehensive term, explaining the true reason of the occurrence. Now man's mission starts. Trained eyes will discover such seedlings; trained minds will compare them with already existing sorts. If the new seedling shows any unique characteristics whatever or reveals other qualities which cause the breeder to be hopeful, prompt action is taken and the seedling is separated widely from all other kinds the following season. Thus started the history of most modern tomatoes. Selection and intensive cultivation have made this vegetable what it is to-day. Nature has done the evolving, man has done the coaxing—for intensive cultivation is nothing but urging nature to do its best under the most favorable conditions.

Take a small fruited tomato and set plants of it on a rich piece of ground. In a favorable season, the fruits will grow larger there than in poor soil. Raise plants from seeds saved from these fruits and repeat this experiment for a number of years. Then the tendency in the plant to produce larger fruits will become a fixed habit—you have an improved type of the old variety. To accomplish this with sorts already well established is comparatively easy and requires nothing but watchful intelligence and patience. When it comes to chance seedlings of nature, different problems will confront the experimenter. The very fact that the parent fruit was a sport, causes all its offspring to be of a sportive character. As many as a dozen different kinds, considering color, size and shape may be found among the offspring of one sport tomato. When Luther Burbank stated that often he was obliged to destroy hundreds of thousands of seedlings in order to perpetuate the desirable characteristics of a few, he uttered a hard, but most important truth. To keep blood straight in plant strains is the steady nightmare of the breeder and often,



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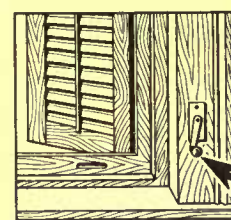
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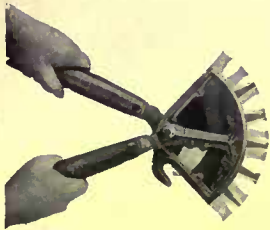
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NATURAL GUANO COMPANY
Dept. 19, 301 Montgomery Avenue, Aurora, Ill.

after laboring a decade on a variety, work has been given up in despair on seedlings that absolutely refused to become "straight."

A most remarkable point is illustrated in the photograph showing the Currant variety and one of the Modern Globes. After being, perhaps, thousands of years in cultivation through ancient and modern times, the tomato takes on again its original shape—the round or globe form. Thus nature asserts its own tendencies and the man who studies them with an understanding mind will be amply rewarded. The ideal tomato we will have when we can grow fruits of the size of Globe in clusters containing the number of fruits in a Currant tomato cluster. So far as the fruit is concerned, the ideal tomato will soon be reached.

Henceforth the efforts of the breeder must be concentrated on the tomato plant rather than on the fruit, for no variety in cultivation to-day grows vines or branches strong enough to support clusters of a dozen or more nine-ounce tomatoes. The plant must undergo many changes before that becomes possible and I doubt if it can ever come to pass that the tomato will have to be treated as an annual. Tropical South America is the original home of the tomato, and there it can and will do its best. When Peru evolves a tomato Burbank, we shall, perhaps, from imported seeds, have results which are suggested above. In the meantime, there are many years of serious work on tomatoes to be spent in this country. Skin, color, solidity of fruit, flavor of flesh, keeping qualities, and many other factors may be worked on in connection with tomatoes, which will always be a staple in American gardens and homes.

The lessons that may be extracted from this short sketch of the evolution of one vegetable are many. What is gained in solidity of flesh is often lost in flavor; gains in size of individual fruit are counteracted by loss in size of cluster. Choice fruit is obtained at the cost of productiveness and quantity is lost to gain quality. But always and forever will quality be the first consideration. Those sorts that prove exceptions to the above rules are the ones that combine quality with productiveness, thanks to the intelligent application of the human mind.



Improving the Flower Varieties

(Continued from page 37)

A fine annual of recent introduction, and as yet comparatively little known, is the African daisy (*Dimorphotheca aurantiaca*). The original is of a beautiful rich golden orange color, but already new hybrids have been secured which run through an extensive range of colors, white, light blue, yellow, red, lemon and salmon, and combinations of the above, in zoned forms, resembling cinerarias. The plant makes a dwarf

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3. *Clematis paniculata*. Luxuriant growth. Masses of star-like, pure white flowers. Very fragrant. Each 25 cts., doz. \$2.50.

4. *Mammoth Beauty* Passion Vine. Vines run 20 to 30 feet and are covered with bloom. The colors are beautifully blended white, red and blue. Nothing more beautiful for the garden. Each 15 cts., doz. \$1.50.

5. *Kudzu Vine*. Picture shows one season's growth—a marvel of rapid growing. Will run 40 to 50 feet in a season. The beautiful flowers, similar to Lathyrus, grow in long racemes, color rosy lilac. The most wonderful vine to cover trellises, arbors, verandas, etc. Strong plants, each 25 cents, doz. \$2.50.

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In this magnificent climber we have one of the most valuable additions to the Vine family. The foliage is of the richest glossy green, heart-shaped, and the flowers of a creamy white, growing in large umbels, cover the vine, lasting a long time. It grows with marvelous rapidity, twines around any object without any support, covering it with a dense mantle of glossy greenery. Should be grown by lovers of beautiful vines. Each \$1.00.

We send STRONG pot-grown plants of this vine which are sure to grow right on WITHOUT any check when planted.

The 5 Vines and one "Novelty" Climbing Hardy Hydrangea for \$1.75, express prepaid.

Send for Ideal Garden Book, Spring 1912. Address H. H. BERGER & CO., 70 Warren St., NEW YORK

growth—less than a foot and a half high—and is of strong growth and easy culture, bearing the large, marguerite-like blossoms, two and a half inches broad, well above the foliage. This new flower should find a place in every garden.

Another fine annual, especially good for cutting, that has remained too long in the background is the lupine. It grows very easily, even in poor soil, and may now be had, not only in blue, but in pink, yellow, scarlet, and white—a very choice collection.

It always seems to me that the geranium is the least appreciated of all garden flowers. We speak of them as "pink," "red," or "white," and think of them as rather coarse and common. There is not room here even to mention the many new varieties, but I want to urge upon every reader the fact that a great surprise is in store for him, or her, if the trouble to look up and procure a few of the new types is taken. Not only are there distinct and beautiful shades of color, but in many are distinctly contrasting colors, and others have unique petal formations, as in the cactus class.

The Lady Washington geraniums or pelargoniums, are very near the top of the list of beautiful flowers. The one thing that has kept them from being very popular is their short blooming period. A new race, however, has recently been developed, which blooms for a long season, or rather has re-blooming periods, and this should make these lovely flowers much more popular.

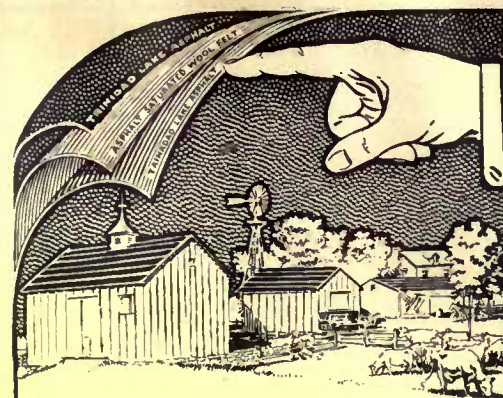
The cosmos is another fine flower which has had one drawback—that of blooming so late that Jack Frost usually got the best of the crop. The new early large flowering overcomes this to a great extent. Lady Lenox, a beautiful shell pink, has enormous flowers four inches across, and should be tried by every flower lover. Crimson Ray is the first of a new type, which might be termed "cactus" cosmos.

The ever-popular poppy has not been overlooked in the general improvements taking place. The indefatigable Burbank has just given us a new line, the result of hybridizing three of the older species, with many new colors and increased size of flowers. In the Shirley type, Celeste yields shades of sky-blue and lavender gray, heretofore unknown among poppies.

A new annual decorative plant that should prove of great value is the Summer Fir, which makes a neat stately looking little tree. Everyone now knows the Summer Cypress (*Kochia trichophylla*) and this "fir" should make a splendid companion for it.

Another decorative plant that has recently been greatly improved is the celosia. Thompson's Superb and other new plumed sorts are great acquisitions; and Pride of Castle Gould marks a new standard. Among the cockscombs the French Striped makes a very unique and novel attraction.

Even such pretty little old-fashioned plants as lobelia and forget-me-not have



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not passed unnoticed. Of the former, Tenuir grows to a height of eighteen inches and has flowers four times as large as the old dwarf sorts. Of the forget-me-nots Ruth Fischer has fine flowers of great size, and there is also a new double-flowered form.

The garden "pinks" (*Dianthus*) have been developed into a number of beautiful named varieties, and the new *mirabilis* strain makes a strikingly beautiful flower. In annual phlox the new large-flowering Cecily marks the present height of achievement.

The variegated or onyx leaved nasturtiums are not new, but a good many people seem still to be unaware of their existence. By all means try them this year if you have not already done so.

Among gladioli every year sees the introduction of several good new sorts, but the most striking recent development is Kunderdi Glory, the first with ruffled petals and remarkably beautiful. Mrs. Francis King, soft pink, and Peace, white, are two grand new giant flowered sorts.

The annual climbing vines also have several remarkable new things to show. First of all the new Cardinal Climber, a brilliant and distinct vine, with beautiful foliage and flowers of intense cardinal red, one and a half inches across, and borne from July until frost. It grows thirty feet tall. This will undoubtedly become a great favorite, as it gives us a new color in this class of plants.

The variegated Japanese hop is the most beautiful annual foliage vine, the individual leaves being beautifully mottled, and the effect of the whole vine, which is a healthy, rapid climber, being quite wonderful. Early Sky Blue will do much to win for the moonflower its deserved place among all who have room for a climbing vine.

Besides all the above, many other distinct and valuable new flowers may be found, and any of them should serve as an inspiration to the gardener who loves plants sufficiently to attempt the selection and possible improvement of any of them for his own garden. A little attention to these newer and better things, and a little effort along the lines suggested in the first part of this article, will make the garden not only more beautiful, but vastly more interesting than ever before.

Garden Suggestions and Queries

(Continued from page 45)

face, a handful of cotton-seed meal, bone flour or fine tankage, or two or three of these mixed together.

All plants in the frames during the last of April and first half of May will require daily attention and almost daily watering. Watch constantly for any sign of green aphid or plant-lice, and keep on hand a supply of Aphid poison and strong tobacco dust, to be ready for immediate action if they appear. Keep the glass off as much as possible, while maintaining the required degree of temperature.



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Every machine made is in successful continuous use.

Use your own judgment in buying a vacuum cleaner. Our booklet, which we will send you free, entitled "How to Buy a Vacuum Cleaner," is written by an eminent electrical and mechanical engineer and will advise you of the merits of all the principles used in vacuum cleaners. If you would have a clean and sanitary home, you need this book.

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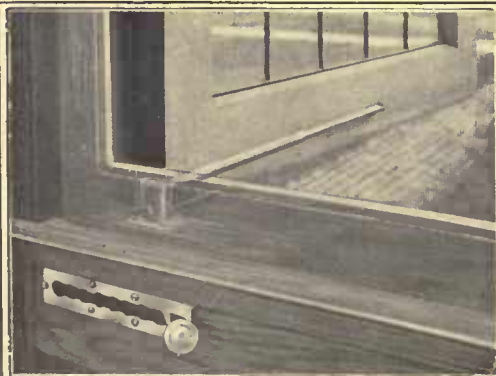
(Continued from page 5)

easily attended to, for the dog can usually be turned loose for a run by himself, if necessary, without danger of straying away. If the grounds are small, or the neighboring country thickly settled, it is well to keep a general supervision over the dog when he goes out for a run in case he shows a tendency to wander, for if left entirely to his own devices he may acquire the habit of "tramping," much as certain human beings do.

A setter should preferably be housed in a dry, comfortable kennel out-of-doors, even during severe weather. His heavy coat will keep him warm there, so artificial heat is quite unnecessary. If so desired, however, his sleeping quarters may be in the house, where he should have a regular bed, such as a heavy rug or carpet, in some out-of-the-way corner.

The English setter yields to none in symmetry and grace of outline, beauty of coat and attractive expression. His head should be long and with a pronounced "stop," as the break in profile at the eyes is termed. The skull is broad and shows plenty of brain room; ears of moderate length, set on low and hanging close to the cheeks. The eyes should be bright and kindly in expression, of good size, and dark hazel in color. Nothing detracts more from the pleasing effect of the head than light colored eyes. The muzzle is quite deep, long from the stop to the point of the nose, and rather square, while the jaws are of equal length. The body should be moderately long, loins wide, strong and slightly arched, and the chest deep. The feet are very compact and well padded, and the legs strong. The tail is, or should be, one of the setter's most beautiful adornments. A good specimen will carry his tail straight from where it leaves the body, for a curve in any direction is objectionable. It is of moderate length and bears that long, silken "flag" or "feather" which, to our mind, is the most striking single feature of the dog's appearance. There is also a pronounced "feather" on the backs of the front and hind legs, but nowhere on the dog should the hair show any marked tendency to curl, although a slight waviness is permissible.

The color and markings of English setters vary considerably with the different strains, and even dogs of the same litter frequently differ widely in these respects. The generally accepted combinations of color are as follows: white and black, white and lemon, white and liver, white and orange, and tricolor, or white, tan and black. The darker color may be in patches of greater or less size, or in tiny spots which give the dog a flecked appearance. All of these combinations look well, so the intending purchaser has to consult merely his individual preference in the matter. In the case of the light-colored dogs perhaps a slight amount of extra care is required to keep their coats looking well.



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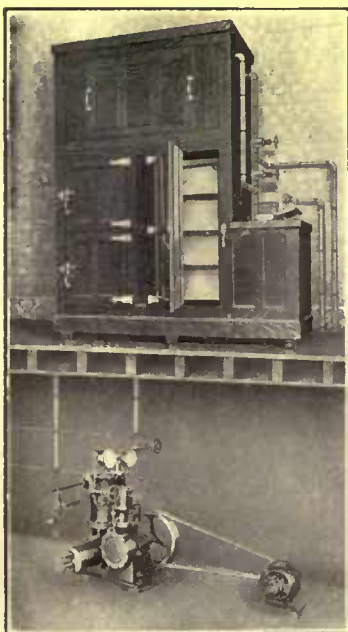
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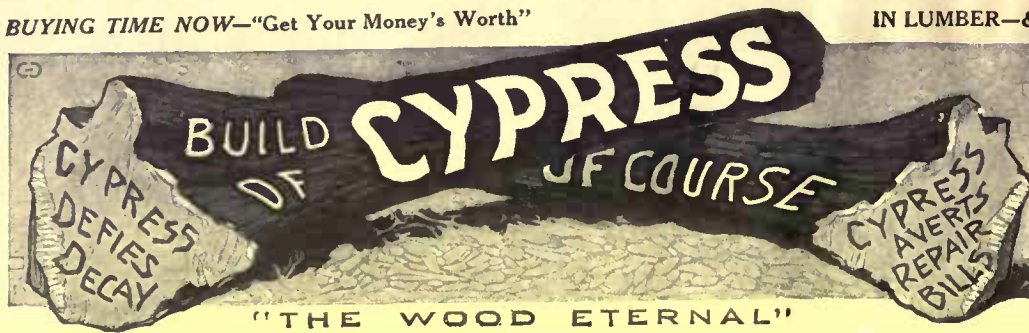
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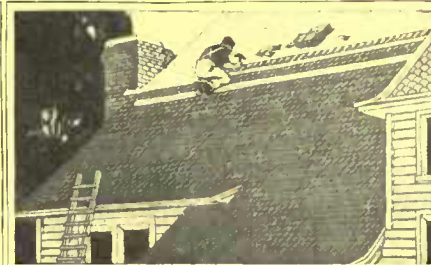
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A Beginner's Experience with Bee-keeping

(Continued from page 13)

hiving a swarm when it had formed.

I found from reading that swarming is a perfectly natural process with the bees and is their method of increase, and that should one emerge, all that I could do was to wait until they had settled on some nearby bush or branch of a tree. This they were certain to do. I found that I was absolutely powerless to cause them to settle, even though I resorted to that antiquated practice that still prevails among ignorant people of rushing out at the time of swarming, ringing bells and pounding tin pans with the idea that it makes the swarm settle. As a matter of fact, it has absolutely nothing to do with it, as the settling of the swarm at time of pan beating was merely a coincidence.

Though I did not know them, I afterward learned that swarming can largely be controlled by increasing the air supply of the crowded hive by elevating it above its bottom board an inch or so. Another plan is to place a shade board over the hive. This is made of three or four pieces of old boards about 3 feet long each, nailed side by side on cleats about 2 inches wide and set on top of the hive lid for shade.

My bees swarmed out the 25th of June. I never saw so many bees in all my life, they just boiled out of the hive, and in a few minutes there were clouds of them, circling around above the hive, and their hum could be heard at a great distance.

No bells were rung, no pans banged, and in a few minutes the bees began to cluster on a nearby branch of a young peach tree, a mere handful of bees, but as others joined the cluster it grew in size at an amazing rate, and when they had all settled it was a living, squirming mass that would have filled a bushel measure.

For several days the new hive had stood in its place near the parent hive all ready for this emergency. I was fully protected with veil and gloves, but without the smoker, as no smoke is required in handling swarms. For some unknown reason swarming bees seldom sting. With some trepidation I cut off the frail branch to which the swarm was attached, and carried it, bees and all, to the new hive and gently laid it at the entrance. It was remarkable, for without more ado the bees demurely marched into their new home like so many platoons of troops.

This new hive that came with the outfit differed only from the one that had the bees, in that instead of having the frames filled with combs, they were filled with full sheets of foundation wax (thin sheets that have been run through a press and stamped into rudimentary cells). Each sheet was securely wired in to form a septum which the bees draw out into full combs.

The frames of the original colony were similarly wired before the parent colony was run into it by the dealer the season before, and when once these brood frames

(Continued on page 70)



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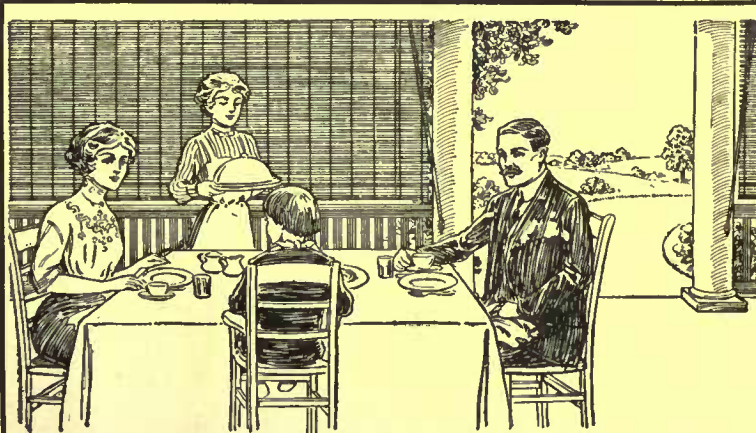
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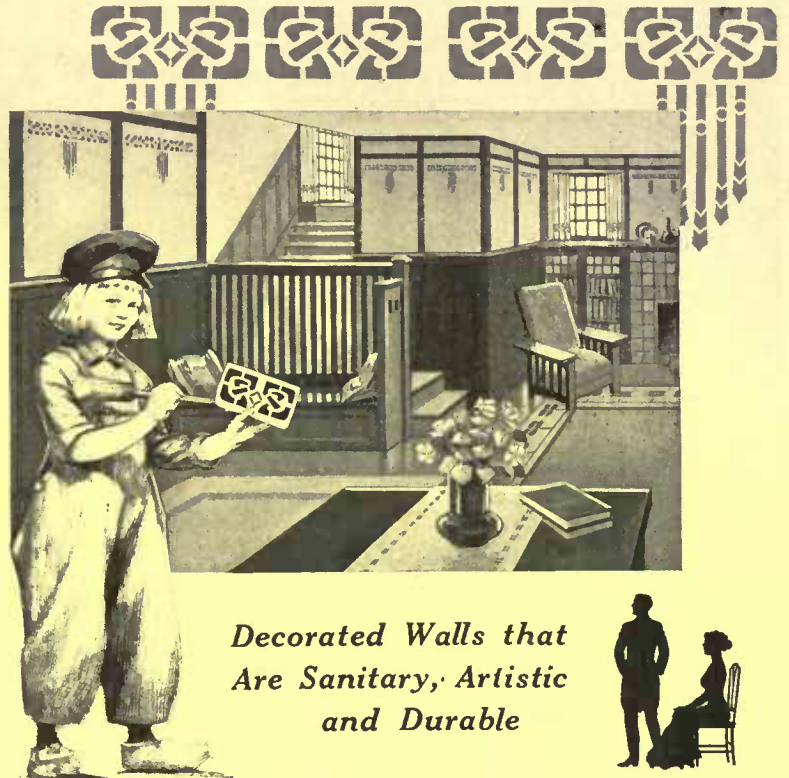
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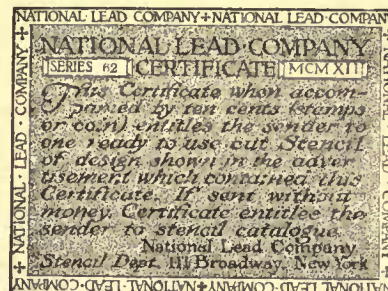
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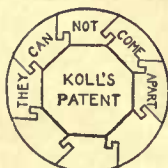
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(Continued from page 68)

are filled with combs the combs will last for years and become tougher with each season. I have some combs that have been in use for ten years, and they are good for years to come.

Although the old hive was now depleted of most of its bees, yet at this time young bees were hatching so rapidly that it gave promise of soon being a full swarm. We got no more surplus from it, however, as the working force of field bees emerged with the swarm, and for this reason we transferred all of the storage chambers with the bees that were in them to the new hive. This was to insure their completion, and thus we hived our swarm, and doubled the size of our modest apiary.

The hived swarm having no combs in their new brood nest were of necessity forced to store most of the honey that came in during the next few days right up in the section boxes they were working in before swarming, and just where we wanted it, so before they had built combs in the brood frames, our sections in the storage chambers were completed.

The surplus in the storage chambers was not taken until the latter part of July, as I wanted them to receive the full benefit of the clovers that were in bloom at swarming time, and after being given to the new swarm, they were left there until the 20th of July. This is the proper time to take them to keep our pure white honey from the clover separate from the later flow from goldenrod, asters, buckwheat, and other fall flowers whose honey is darker in color, and though it is nevertheless delicious its flavor is not as fine as that from the early flow.

There is a little appliance known as a bee escape board that comes with the outfit outlined in the beginning of this article that enables us to take the harvest without disturbing or being disturbed by the bees, and it was at this point I brought it into play.

The little boxes with their full combs of honey were lifted out and empty ones put back into their places, and toward evening using a little smoke, the bee escape board was removed and the refilled chambers set on the hive again with the hive lid over all, ready for the fall flow that begins about August 10th.

Just as the first cold weather began to kill the goldenrod and wild asters, I brought the bee escape board into play again and took the last of the surplus from them.

When I took stock I found that at the close of the season my single hive had produced just 146 finished combs weighing a pound each. Besides this, I had the extra swarm making two hives of bees for wintering.

On November 10th, I took off the lids of the hives, and right over the tops of each hive I placed the chaff tray filled with shavings, and with the lids of the hives over this my bees were ready for their winter sleep, and required no further at-

(Continued on page 72)

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Cooking Apparatus of All Kinds.

(Continued from page 70)

tention until the next spring, when the storage chambers that were put away for the winter would be filled again with the little section boxes and ready to be filled with combs.

The bees wintered perfectly, and came to the following spring in splendid shape. The two hives produced me that season just twice as much honey as the one did the season before, and that year at the season's close I had four swarms instead of two, and thus the apiary grew until in a few years I had as many as ten hives.

Being a man with many duties connected with my profession, the bees have naturally been but an avocation with me, yet to the man who essays beekeeping as a means of livelihood, eventually becoming the owner of several hundreds of hives, there are great possibilities connected with it. I recall an apiary in New York State in the midst of the buckwheat region, the hives of which number 800, and whose annual output is about 75,000 pounds, though, of course, in any other section than this peculiarly favored one it would be suicidal to place more than 100 hives in one yard. The flora in any given locality is naturally limited, and to keep several hundred hives in the average location would mean that we would have to have several bee yards of say 100 hives each scattered throughout the surrounding country about five miles from each other, but easy of access by wagon, auto, trolley, or rail.

In conclusion I might make the statement that I have found that bees were not naturally cross or vindictive, but, on the contrary, become tame as pets if treated considerably and not needlessly jarred in their homes. If in spite of this assurance of their docility you are fearful of stings, then let me say that a moderate use of the smoker, supplemented by the veil and gloves will make it possible to go through a whole season of the most intimate acquaintance with them without even receiving a single sting.



What to Plant for the Fall Garden

(Continued from page 16)

too numerous to make possible any attempt at enumeration here. They contain single, semi-double, double, fringed and laciated forms and colors running through every shade of pink, crimson, rose and red, with pure white, and combinations fantastic and beautiful. Imperialis and Mirabilis are, I think, the choicest of the several strains of the mixed colors.

Care should be taken, where an abundance of fall flowers is desired, to keep the flowers picked off clean during the summer. This precaution should be followed, indeed, with all annuals and biennials if one wishes to secure a long flowering period.

(Continued on page 74)

The Tale of "Old Hickory"

For ages the trees were man's shelter and abode. He lived in them. They were a part of his being.

But in the van of civilization, the trees disappeared. Cabins, then houses, finally cities sprung up, where once the forest swayed. Civilization did its work. The poetry of the wilderness was gone.

But—the desire of man to live in Nature did not go. The rough bark of trees, the blue skies, still hold their appeal.

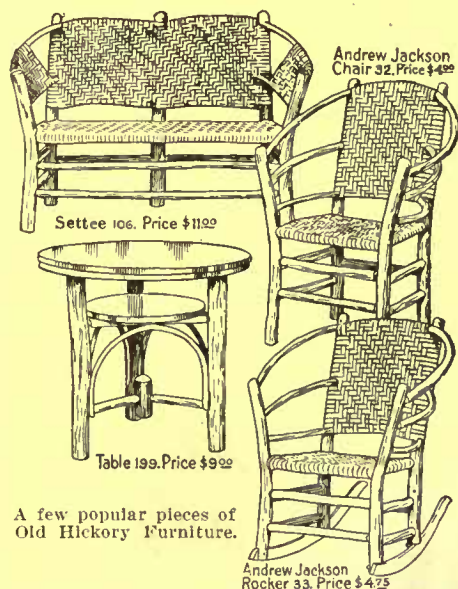
So he went back into the wilderness, and there fashioned for himself a seat from the rough barked trees therein.

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For the
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For Runabouts Cruisers and Speed Boats.
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(Continued from page 72)

There is a number of flowers besides those already mentioned, which play minor parts in my fall garden, most of them even after the first frosts. Of these I admire none more than the velvety, delicately veined *Salpiglossis*, which has never received half the popularity it deserves—due in part, I am convinced, to its hideous cognomen, "painted tongue." The new Emperor strain is distinctly an improvement upon the original forms.

Another favorite is the California poppy, with its great variety of freely borne flowers. Still another is the old fashioned stock, although for late flowering the new-fashioned varieties, *Bismarck*, and more especially the *Beauty* or *Cut-and-Come-Again* sorts are more desirable. *Kochia*, the summer cypress, or burning bush, always has a prominent part in my fall garden, with its symmetrical outline of flame-like red. It frequently "self-seeds" even in my cold climate, but the plants must be given plenty of room, or they will amount to little.

Some half dozen others deserve their places, too, but are of less importance. *Scabiosa*, *gaillardia*, *calendulas*, *batchelor's button*, *portulaca*, *alyssum* may all usually be found in the late garden, usually more by chance than by design. Even these simple flowers have not been neglected by our seed merchants, and I would suggest while you are about planning your fall garden, your looking them up, and trying some of the newer types.

If you will take the trouble, this year, to plan definitely for a fall garden, I am confident that the result will be highly satisfactory, and that you will never again leave it to the haphazard chance of having things left over from the summer garden.



The Value of the Compost Heap

IN clearing up about a place in the spring, there is always a liberal amount of litter, particularly leaves, to be found, and all of this should be regarded in the line of luck, rather than a nuisance, for there is a great amount of value in it that should be taken advantage of. Gather everything that is raked up and store it, piled up, in some place until it is thoroughly decomposed, for in the reduced state it is real plant food.

This suggestion applies to large as well as small places, for each can take care of an amount proportionate to its wants. Loam is becoming scarcer each year, and to appreciate just how true this is one has only to go in search of some individual from whom to buy a load or loads of loam. It will be no easy task to find this person, and then the price demanded will stagger you. Loam will cost from \$1.50 to \$2.50 per cubic yard, and there will be no great abundance of the best even at the highest price.

(Continued on page 76)



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Many other varieties are listed in my book "Hardy Plants." Send for a copy to-day, if you prefer to make your own selection; but don't forget that this month of May is the time to get Dahlias in the ground.

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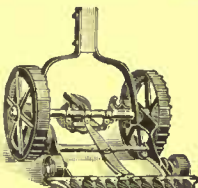
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NORTH SHORE FERNERIES CO.
BEVERLY, MASS.

(Continued from page 74)

The average quality of loam offered for sale will be poor. When this condition of loam scarcity is fully understood the value of the compost pile will assume large proportions, for through it is possible the salvation of worn-out soils.

A compost pile is either large or small, but it is always an accumulation of vegetable matter that is piled up to be reduced by decay to a friable mass, in which condition it is suitable for plant food. To reduce the mass to this state will take from six to twelve months, depending, of course, on the varying conditions.

The compost pile should receive all the rakings during the year, the grass from the lawn, old sods, clippings from flower beds and edgings with occasional sprinkling of bone meal and manure. Water at intervals.

By saving all these things and putting them back into the ground you are giving back to the soil what you took from it, thereby insuring nourishment for whatever growing things may be put into the ground. Commercial fertilizers are excellent up to a certain point, but they avail but for a short time in a soil deficient in humus. Humus is the life of the soil, and the decayed product of the compost pile is humus, or plant food.

Suggestions such as the above may seem to apply directly to very large places where there is plenty of room, but they are just as pertinent for small places where but a few house plants are to be considered. To make leaf mold where room is a consideration a number of methods may be followed. If possible, dig a large hole in the ground and into this put everything raked up. Tramp down hard and soak with water. After the pit is well filled cover with loam and leave for some months, or until decay is complete. Where it is not even possible to dig the hole use barrels, proceeding just as in the pile or pit by piling in leaves and raking and allowing to decay. A few barrels will give enough mold for repotting a number of good-sized house plants, and it will more than repay you for the trouble.

While leaves are excellent for the soil in a decayed state, they should never be dug into the ground as raked up where planting is to be made. They will heat and injure any plants put in with them. Have you noticed while walking in the woods the soft springy feeling of the ground on which you walked? Have you attempted to pick up a log and had it fall to pieces in your hands? That is the way Nature puts back into the ground what she takes from it. You can do the same by making a compost pile, and it will pay you.

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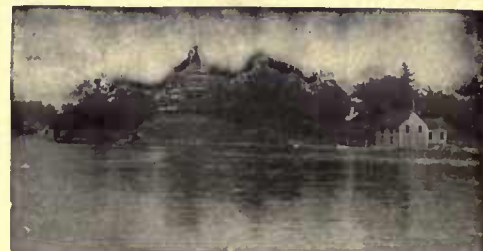
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Chicken Raising on a Small Scale

THE plan of buying day-old chicks has made it very easy for anybody to become a poultry raiser in a small way. It is no longer necessary to bother with broody hens or to sit up nights with an incubator, although there is a certain fascination in hatching chickens which many people would be loath to forego.

Chickens absorb the yolks of the eggs from which they have hatched just before they break out of their shells, and the nourishment thus obtained is sufficient to last them for two days or more. Accordingly, it is not necessary to feed them for that length of time, and they may be sent by express for hundreds of miles with perfect safety in small, ventilated pasteboard boxes designed for that purpose. That being the case, it is an easy matter to obtain as many chickens as may be desired of any particular breed and from any particular breeder. The price will range from fifteen cents each to many times that amount, depending upon the quality of the breeding stock or the reputation of the breeder.

After the chicks arrive they may be raised in fireless brooders. That means that mother hens are eliminated from the entire proceeding. Heated brooders may be used if there is an outbuilding for them or a sheltered place out-of-doors. Such brooders are to be chosen as a matter of course when a large number of chicks is to be raised, but the fireless brooder will give excellent satisfaction when only a few are desired. Heated brooders require much attention, and there is always a fire risk when they are operated in the house.

Any warm room will answer for the fireless brooder; there is no reason why it should not be kept in the kitchen. As the weather grows warmer, it may be moved to the porch and then out on the ground, being sheltered by a box.

A fireless brooder is a very simple device—merely a box with felt or burlap under the top and strips of felt at the entrance. The cloth within the brooder comes close to the back of the chicks and the heat generated by the chickens themselves keeps them warm. The chief difficulty comes in getting the chicks to run into the brooder whenever they begin to feel cold. They will go in more readily if the brooder is fitted with a piece of glass to make the interior light, but a better plan is to fill a hot water bottle occasionally and place it on the brooder in such a way that the heat will penetrate the felt or burlap. Whether this can be done or not depends upon the construction of the brooder. The cost of such devices is very little—from \$1.50 up, but a very satisfactory brooder may be made at home in a few hours.

This is the simplest way of raising a few chickens. Too much work would be involved if the number were large. People who go to the country or the seashore for the summer can start chickens in this way and have them to eat during the summer

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A Cleveland to Mackinac special steamer will be operated two trips weekly from June 15th to September 10th, stopping only at Detroit every trip and Goderich, Ont., every other trip.—Special Day Trips Between Detroit and Cleveland, During July and August.—Railroad Tickets Available on Steamers.

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Philip H. McMillan, Pres. A. A. Schantz, Gen'l Mgr.
Detroit & Cleveland Navigation Company

months. One of the advantages of this plan is found in the fact that chicks raised in this manner are free from lice; that is, if they were hatched in incubators.

When chickens to be kept for layers the following winter are desired, they should not be hatched too early, or they will molt in the fall. If the breeds are the Plymouth Rocks, the Wyandottes, the Rhode Island Reds or others of about the same size, they may be hatched from the middle of March to the middle of May. When the smaller breeds like the Leghorns, the Houdans or the Anconas are kept, the hatching season may run from the first of April to the first of June.

Young chicks thrive best if they have fresh air in abundance, but are not allowed to get chilled. The more they are out in the open on warm, bright days the better for them. There is danger of too much heat in heated brooders. Their pens should be kept clean, of course, and it is well to have the bottoms covered with a litter of finely cut alfalfa or hay. The sweepings from a stable loft make an especially good litter. Home-made fireless brooders are usually partially filled with soft hay, which is used to close the entrance at night.

Many people make the feeding of young chicks a complicated matter. Nothing is gained in this way, however. Oat flakes make an ideal food for the first week; ordinary oat meal is often used. The commercial chick feeds are excellent and are sold by poultry supply houses, seed stores, grain dealers and often by the family groceryman. They may be given on a board until the chicks are strong and then scattered in the litter. Four times a day is often enough, and the chicks should be given what they will eat up clean. A pan of fine grit should be before them at all times from the first, and water should always be supplied, preferably in a fountain so constructed that they can not climb into it.

By the time the chicks are two weeks old they will not require to be fed oftener than three times a day. Then a mash consisting of three parts bran, one part of corn meal, one part of middlings and one part of good beef scraps may be kept before them in a hopper; or a ready mixed growing feed may be purchased at the poultry supply houses. The grain in the litter should be continued, of course. After they are five weeks old, a coarser grain mixture may be bought or the ration changed to a variety of grain including wheat, hulled oats and cracked corn. Only enough to keep the chicks busy scratching should be given. They will go to the hopper of mash if they do not find enough grain in the litter, so will not be underfed. It is well to give bits of lettuce and other vegetables frequently.

Feeding in this manner is not a hard task and the birds thrive. Wet mashes should be avoided by the amateur, but a constant supply of water must not be overlooked, for it is one of the secrets of success in chicken raising. E. I. FARRINGTON.



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EVERY reader of TRAVEL for the past year has become familiar with the name of Albert B. Osborne, whose "Picture Towns of Europe" has been a feature of so many issues. Mr. Osborne is a lawyer by profession and traveler by preference. He has, however, shown himself to be more than a dilettante, and we hope to have him as a regular contributor for a long time to come. He sails for England the latter part of June to gather material for a series of articles that will begin some time in the fall.

In response to a request for some details about his life Mr. Osborne says: "Before I was old enough to know better I went into politics and was vice-president of a Democratic State Convention at eighteen and mayor of the City of Corry, Pa., at twenty-five, the youngest mayor in the country at that time. I was chairman of the State Convention that nominated Governor Pattison as candidate the last time he ran for governor. In that same year, in 1902, I was foolish enough to run for Congress.

"My special hobby is a little railroad in the Middle West, and after that travel comes, although music runs it a close race for second place. Indulging this fad for music I use the pianola, upon which I like to think I can play in a way to deceive the very elect."

It is not often that a scientist turns to fiction for recreation, but it is just this that Garret P. Serviss has done in his latest novel, "The Second Deluge." With his knowledge of astronomy Mr. Serviss has been enabled to give this wonderful tale of the second destruction of the world by flood a plausibility attained by no other story of its kind. As a young man we know of expressed himself, "He has Jules Verne lashed to the mast."

Mr. Serviss claims no more for his novel than a fictional interest. A New Orleans newspaper, however, recently published an editorial of nearly a column to refute his theory of a second deluge. The gist of the editorial was that the next destruction of the world would be by fire and not by water, a belief which, of course, is supported by biblical prophecy. The book contains a suggestion of humor that will be perceived by those who have a discerning eye.

You can tell from the title of "Let's Make a Flower Garden" that the author, Hanna Rion, is full of cheery optimism. Mrs. Ver Beck, for that is her real name, wrote also "The Garden in the Wilderness." Writing from her home in Bermuda, she says, "There doesn't seem



to be anything of interest about me except my donkey," and proceeds to tell a little story about "Gunja," pictured in last month's OFFICE LOUNGE.

"Such a great believer in allowances am I, I give even my jackass, Gunja, tuppence a week spending money. He is a spendthrift, hence the limited allowance. As a rule, Gunja spends the entire tuppence on ginger snaps, for which he has inordinate appetite. After trying the ginger snaps of several stores, he decided upon a certain brand kept only by one grocer. Even when his tuppence has been spent he refuses to pass this grocery without our either advancing his next week's allowance or magnanimously treating him.

"The wisdom and advisability of giving an allowance to one's jackass was particularly evidenced on one occasion. Gunja having thrown me out of the cart on the top of my head, proceeded to run a race with his own previous record. Several bystanders, bicyclists and policemen entered the race, too, but they were only referred to afterward as having "also ran." Having outdistanced everybody for some miles, Gunja neared his especial grocery. Immediately slowing up, he trotted sedately to the pavement, mounted the curb, and taking his cart with him, entered the wide door of the shop; then, walking up to the counter, he politely brayed a request for tuppence worth of ginger snaps."

Lewis Gaston Leary's latest book, "Andorra, the Hidden Republic," is, so far as we have been able to ascertain, the first book on the subject in English. Andorra is the smallest republic in the world, for its population is only 6,000. The lowest peak of this mountainous land in France is 8,000 feet high, and its people share the rugged character of their country. For one thousand years they have been exempt from customs duties with France and Spain, and, taking advantage of this, they buy Spanish cattle and keep them a little while in their own country—ostensibly to ease their conscience; they send them into France as Andorra cattle, thus avoiding payment of the tariff. Dr. Leary made a trip to Andorra last summer and studied the country and its people in preparation for this book.

HOUSE AND GARDEN simplified the homemaker's problem by telling him the kinds of architectural styles and their special requirements. This is now being done with gardens. If you are in doubt about the most fitting thing for your place, you must read this series. In July the subject will be "The Wild Garden."



Albert B. Osborne, author of "Picture Towns of Europe," was Mayor of Corry, Pa., when he was twenty-five

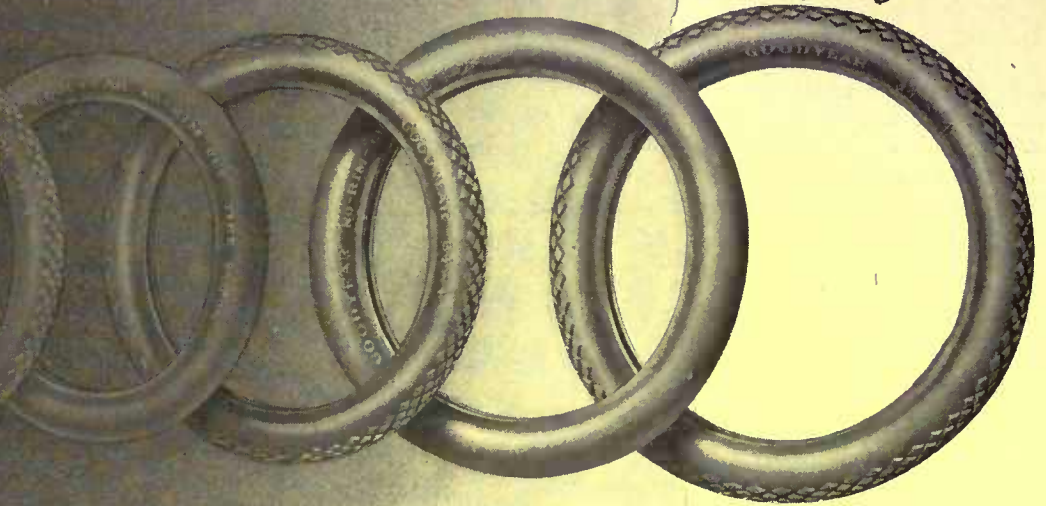


Some characteristic poses of Garrett P. Serviss, author of "The Second Deluge." Mr. Serviss is well known for his scientific writings, but he has won an enviable reputation as a novelist. The Albany Argus says, "Jules Verne was a Gradgrind compared to Serviss."

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COVER DESIGN: GIROUARD BUNGALOW, ALTADENA, CALIFORNIA

CONTENTS DESIGN: FISHIN' TIME

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McBRIDE, NAST & CO.,

Robert M. McBride, President; Condé Nast, Vice-President; Robert F. MacClelland, Secretary; Henry H. Saylor, Treasurer.
Published Monthly. 25 cents per Copy. \$3.00 per Year. For Foreign Postage, add \$1.00; Canadian, 50c.
VOLUME XXI Entered as Second-class matter at the Postoffice, New York, N. Y. NUMBER 6
HENRY H. SAYLOR, Editor.

31 EAST 17th STREET
Union Square, North

NEW YORK CITY

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House & Garden

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VOLUME XX

June, 1912

NUMBER 6



Dr. Hall's log cabin at Sharron, Massachusetts, cost about one hundred dollars, but returns more in comfort and recreation than a house a hundred times as expensive

The Kind of a Summer Home to Build

THINGS YOU SHOULD PLAN FOR IN YOUR VACATION HOUSE—FEATURES THAT BRING COMFORT AND ECONOMICAL CONSIDERATIONS—MODERN IDEAS FOR CAMPS

BY AYMAR EMBURY, II

Photographs by Mary H. Northend

AMERICAN country houses are very distinctly of two types—the one suited to all the year round use where a certain amount of ceremony is always observed and where one feels one's best clothes to be an essential—at least on Sundays; the other essentially a lounging place where old clothes are the rule, "calling" is an unknown quantity and comfort rather than appearance is the thing to be most thought of. Of course there are a great many suburban places where the small informal type of house is used for all year round occupancy; likewise there are a great many summer cottages so-called, used



The Haynes bungalow is finished with exposed framing stained gray

for life quite as formal and ceremonious as any in the city; the Newport group will at once recur to the minds of those who read this. This last is a group of tremendous country houses, some of which are really palaces, whose owners affect to call them cottages; in them one could be about as free and unrestrained in costume as in the foyer of a theater or the lobby of a big hotel. Even among the very wealthy this type of house is no longer being built, for the nation as a whole is coming to prefer simplicity to magnificence, and comfort to display.

Perhaps the most important thing of all about the exterior of a summer



Perfectly adapted to its situation is this log cabin at Pinehurst. Indeed, no other form of structure would do half as well in this flat country of straight pine trees as the log cabin form



The upper part of this house projects on the farmhouse lines and forms a natural porch. This is a type planned for coolness



Native materials are the summer home builder's first consideration. There is not much "architecture" here, but this is an ideal summer cottage that appears to have grown on this rock

house is that it should harmonize with its surroundings and justify by this harmony its intrusion on some beautiful natural location. One has instinctively a feeling of resentment at seeing a big square mansion of glaring color, crowning a soft wooded knoll or a rocky seaside point. The colors and the design of the house should both be made to tone in with the natural surroundings, and the completed structure should emerge from the ground, rather than be set upon it. Any one who has driven through the lovely Shinnecock Hills will remember with pleasure the interesting and picturesque fashion in which the houses are disposed through and around these low mounds, which really are not hills at all, but only grass-covered sand dunes. They have been built to lie close to the ground and covered as they are with vines, tinted in soft warm colors, interrupt not at all the natural beauty of the landscape, but rather accentuate it.

Another type of house which is perfectly adapted to its situation is the log-cabin at Pinehurst. Although this is a winter and not a summer home, still the conditions of temporary occupancy, unconventional life and fitness of the site to its surroundings make this picturesque house one of the same class. It will be readily recognized that the sandy soil and tall thin pines fit themselves to no other style of architecture so completely as to this log cabin, and while Pinehurst has many other houses more expensive and perhaps, apart from their surroundings, better designed than this, there is no other which so completely fulfils the spirit commanded by the conditions of life there or by the surroundings.

Just as the architecture of the country house is different from that of a permanent home so there are certain factors which make a somewhat different type of plan desirable. In the first place, since practically every guest is welcomed directly into the family circle, entrance doors opening into the living-room are neither uncommon nor in any



The problem of a porch is a different one with the seaside cottage. This is almost like the deck of a ship, and takes every advantage of the ocean breeze and permits a long promenade in unfavorable weather

way undesirable, although for an all-year-round house direct entrance to the living-room is by no means satisfactory. The bedrooms may be much smaller, and as a rule in the seaside house the bathrooms are reduced in number in many cases, especially where an approach to real camp life is desired; servants' quarters are reduced to the minimum or omitted altogether, a guide doing all such work as is not borne by the family themselves, and his quarters are as a rule separate from the main structure. Of course no general rules can be laid down as to the plan and type of house, which runs over a wide range of costs, but it may in general be said that one, or at most two, large living-rooms are preferable to the three or four suited to the more complex subdivision of life in permanent homes. Oftentimes one room which serves as dining-room and sitting-room both is used, or where people really enjoy a sort of camp life, they combine the kitchen and dining-room. Again, in the matter of construction there is considerably more latitude permissible; a house either at the seashore or mountains, where the weather is always cool, can be very lightly constructed, since the necessity of insulating the entire structure against heat in summer and cold in winter is removed. The illustrations of the Haynes house show examples where the framing is left exposed and illustrate how attractive a construction of this kind can be made. The woodwork of the Haynes house is stained a dull gray. Such interiors as these require very inexpensive furnishing and decoration. The rough tables, the grass mats and the general type of furnishings are inexpensive in the extreme and perfectly suitable to the character of the building, and another valuable feature is that there is no plaster to grow damp and musty while the house is closed, and no wall-paper to peel off unheated walls. Of course the loss of insulation against heat and cold is accompanied by the corresponding loss of sound-proof qualities, and if one can-



An idea for a camp was taken from the negro cabin roofed with shakes. The ends are living quarters, the open space between, the dining-room



The summer house should appear to rise out of the ground rather than to be set upon it. Simple lines, modest construction, and plenty of ventilation—these are summer home requisites



Though white woodwork may soil easily, it gives an impression of coolness on the hottest day



The dining-room of the Haynes cottage is typical of inexpensive furnishing that succeeds well where comfort is prized above ostentation



This little house is almost ideal for a vacation home, in that it has nothing but what is necessary, yet retains an attractive appearance

not exactly hear a whisper from one end of such a house to the other, one can certainly hear a shout. When, as is the case with many summer houses, they are subject to extremes of temperature, a more substantial construction is desirable, and sheathing, insulating paper and either clapboards, shingles or stucco on the exterior, with plaster on the interior are a requisite. Wall-paper should not be used, but a sand-finished plaster tinted in quiet tones, with bright chintz curtains, make a very effective, economical and durable finish. Terra-cotta blocks, plastered on the inside, either stuccoed or damp proofed on the exterior, are an excellent substitute for the ordinary construction, securing a cool interior in hot weather and a warm one in cool; their cost is, however (especially in remote localities), considerably above that of the typical frame construction. This is due perhaps not so much to the cost of the material itself as to the fact that most country builders are unfamiliar with it and are not able to lay the blocks quickly enough to offset the original high cost of the material. Brick or local stone are both excellent materials for some sites, the stone being particularly appropriate to rocky or rugged positions and the brick to more or less flat sites with at least a few large trees. Of them all stone, in spite of its very low first cost, is perhaps the most expensive to construct, because some hand work in shaping the material is necessary to build a substantial wall, and also because the amount of material which goes into a stone wall is greatly in excess of that required for one of brick or terra-cotta, which need be only half as thick. Even with a low unit cost the total is apt to run pretty high.

One thing which should not be forgotten in the construction of the summer house is the most thorough ventilation of all rooms. Windows should be placed opposite each other as far as possible and so that there may be a free circulation of air through all the rooms; and, in houses not shaded by trees, eaves wide enough to cut off the sun during most of the day from the windows, are well worth while having.

Since the house is occupied only for part of the year and as a rule not in cold weather, no furnace or other means of heating the entire building is necessary, but there should be several fireplaces to take off the chill during cold evenings. Leaving out the furnace enables us to do without the big cellar necessary to house it and store a supply of coal. The average house needs also a lot of storage space for screens, spare furniture and the thousand and one items which accumulate in a permanent residence that are not essential to the comfort of a summer house, and the space thus saved may be utilized for living purposes. The main difference between the suburban cottage and the summer camp is that one does not expect the same degree of comfort and the same quality of finish in a house which is occasionally used as one does in a permanent house. In fact, too high a polish (so to speak) is apt to be resented by a family going away for its vacation: they expect, and are pleased with, things which they would ordinarily regard as inconveniences, and there is a certain piquancy about rough surroundings and minor discomforts when they are but temporary, which add zest and enjoyment to a vacation in such surroundings. We go to the country mainly to get away from the convention of city or suburban life, and when we lay aside our business clothes we discard with them a certain habit of mind and adopt another, freer and more responsive to the natural surroundings. This is inevitably reflected in our dwellings, and I think that just as no one could enjoy a vacation in a derby hat, one cannot enjoy a vacation in surroundings of the same finished perfection which we desire in our all-year-round homes. Every summer home, too, should have with it some regard for the fact that the work for the servants also should be lightened, and the work should be reduced as nearly as possible to a minimum. White woodwork, with cleaning of finger marks, can be gotten along without, and although a brush coat of stain on rough wood is little less agreeable, it is far easier to care for.

(Continued on page 65)

Making a Bowling Green

A GARDEN RECREATION THAT NEEDS LITTLE SPECIAL PREPARATION AND NO RADICAL CHANGES—THE FUN OF LAWN BOWLS—ITS REQUIREMENTS

WE commonly discuss the efficiency of our country place in the light of production. We also consider its efficiency in giving pleasure to the senses; but not so often do we discuss its opportunities for recreation. Of course, the games of lawn tennis and croquet are common enough. They each have special requirements and some drawbacks, chiefly in the former an injury to a landscape feature, and in the other a potential injury to one's person by the insidious wire traps that, notwithstanding regulations to the contrary, are not removed at dusk. The game of lawn bowls, on the other hand, affords considerable pleasure, and, at the same time, neither injures the appearance nor the condition of the lawn. Its requirements are very simple, and although specially provided rinks may be necessary for experts, any ordinary good lawn may easily be developed into an ideal bowling green. As the game is comparatively unknown over here, a few words descriptive of it may not be out of place here.

Briefly, the idea of the game is to have a few, or a number of players to roll a number of balls, called "bowls" along a very smooth green turf to an objective point some distance away, represented by a white ball called a "Jack." This "Jack" is located at least twenty-five yards from the position from which the player bowls. The bowls cannot exceed in circumference sixteen and one-half inches, nor weigh more than three and one-half pounds. The bowls are not round but have a biased side and it is this irregular shape that makes the game a difficult one to become proficient in.

Further, every player must stand on a mat when delivering his bowl and at all times have at least one foot upon it. This mat may be of corrugated rubber or linoleum and while there is no hard and fast rule as to its composition, it should be about twenty-two by fourteen inches in size.

While any number may play bowls the most interesting re-



The Jack is the white ball in the center, which the bowls are supposed to approach, but not touch

BY LUKE J. DOOGUE

man's game. Its requirements are just strenuous enough to afford a pleasant exercise for both men and women and some of the cleverest bowlers are men well advanced in years who have been playing since childhood.

It would approach the truth to say that bowling on the green was more like lawn billiards than enlarged marbles, for many of the same complicated shots executed on the green baize of the billiard table are duplicated on the green turf. Utilizing the bias of the ball, and every player has his pet "bowls," the skilled player can so direct them that they will wind their way through a seemingly impassable wall of bowls about the Jack and bring

them to rest in positions that mean points for his team. It may require a delicate carom, or a number of them, or a sweeping curve to effect this but a well-played game is replete with just such artistic demonstrations.

Each bowl is numbered on the bias side and when the bowl is delivered the number should be on the inside, that is next to the body.

A good pair of bowls will cost from seven to ten dollars and each player should have two pair.

In playing a single, or pairs, each player uses four bowls but with three on a side



The bowling green of Weld, the Anderson estate near Brooklyn, is pleasantly shaded and arrangement made for spectators

or a full rink (fours) only two are necessary. A regulation bowling green should be one hundred and twenty feet square. The playing space should be on a tough, springy sod that is so well drained underneath that it will dry out quickly. It should be as level as it is possible to make it, and immediately surrounding it should be what is called a "ditch," a space one foot and one-half wide sunk six inches below the playing surface. The playing space should be bound by some sort of retaining wall, flush with the surface, to prevent sloping the ground towards the ditch when rolling.

To effect the proper drainage the ground where a green is to be located should be dug out three feet and a foundation of rough stones laid. Over these stones engine cinders should be placed and rolled and watered until a solid, springy level surface results and then a six-inch top of the best loam that can be found should be spread.

In the matter of choice of grass seed many kinds and combinations would give good results but red fescue will be found to answer all requirements. Prepare the surface by raking fine and then sow the seed evenly, roll and water if necessary. The roller plays an important part in the upkeep of a green and only a heavy



An English place has provided a sunken green overlooked by sloping terraces. This may be used for either tennis or bowls

these a game can be played. Each rink has a marker with a number on it placed at either end and the "heads" are played back and forth.

To keep the sward in the best condition, the rinks should be shifted from time to time, that is, rolling should be followed in one direction for a certain period and then at right angle to this course. This reduces the wear and tear on the playing surface.

For the rest, merely general precautions are necessary. When the ground is moist no leather heeled shoes should be worn in passing over the green. The care is much the same as of a lawn-tennis court, and if a great degree of expertness is to be obtained, the condition of the rinks must be at an extremely high point. Nevertheless, for the ordinary game a few slight irregularities will not detract from the pleasure.

(Continued on page 64)

Cottage Furniture

A TYPE OF GOOD DESIGN AND FINE WORKMANSHIP THAT IS IDEAL FOR THE SUMMER HOME AND VALUABLE IN THE YEAR-ROUND HOUSE AS WELL

BY TUCHY LAS CASAS

AFTER the many energetic, almost hysterical, attempts that have been made to revolutionize the world of furniture during the last twenty years, it is highly satisfactory to note that a calm and reasonable style has at last been developed. From the somewhat barbaric and unsympathetic archaism which came with the first attempts to achieve simplicity, to the twirls and affectations of the Continental school of "the new art" there have been many disappointments. Between these two ineffective expressions of art lie a thousand ephemeral vanities of style that have come and gone before our eyes during the last



A gate-legged table with the beauty of old lines, made in hard wood unpolished

decade or two. But, in the so-called cottage furniture to-day we find at last something perfectly adaptable to its purpose and really beautiful and graceful, a striking contrast to the shoddy, ornate, badly-made stuff that has been flooding the market for some years, and which threatened to destroy any genuine artistic feeling that existed. Such furniture is not only practical but it lends an atmosphere of repose and charm which is vastly more desirable than an environment of over-decorated and pretentious objects, which tend to stimulate insincerity.

This simple, carefully constructed furniture has another

advantage over the cheap, ornate kind in the fact that it keeps its excellent appearance as long as it lasts, while the highly varnished, highly ornamented objects soon become shabby and dull looking, and pull apart, giving an effect of dejection and slovenliness that is depressing.

Furniture of an inexpensive sort was for a period of perhaps twenty-five years thrown together with the utmost carelessness, and without any attention paid to truly artistic lines and finish. But a few years ago there came an awakening, and people turned in disgust from the cheap and inartistic furniture, the result being that the decadent state was swept by a far reaching conversion.

The first effect of this new æsthetic sense was the inevitable stage of self-conscious and affected simplicity verging on the monastic. The pendulum swung to the other extreme and the better work of the modern school of craftsmen appeared, work which



With the simple finish of this dining room the sturdy, unpretentious look of the furniture is in excellent accord

certainly has tended to repress any exuberance of imagination and to express its revolt in negation.

Nothing actually new has been made in the way of furniture in this revived knowledge of the beautiful, but a wise eclecticism has been displayed in regard to the rich inheritance of styles of the past, and a groundwork of severity and simplicity having been attained wise study of the best periods of furniture, the Tudor, Stuart and Georgian especially, has resulted in what may be safely called a modern style.

This very simple furniture calls for better craftsmanship and better materials, wood carefully cured and seasoned, which is of vast importance.

Such pieces outlast a dozen of the sham, shoddy varnished horrors that our furniture shops have known in years past, and people of small means are gradually learning to see that this well-made, well-shaped, simple furniture outlasts by years the other; not only that but improves



The craftsmanship is painstaking in all the joinery



Natural graining is well brought out in this wood finish



This very simple sideboard may be matched by a useful kind of plate rack



The New England settees are matched in the new style of furniture, preserving their excellent lines in the best of workmanship

decidedly with age and use.

One of the greatest advantages of this type of furniture is its extreme durability. For not only are the pieces of this work put together in an almost indestructible manner, without the use of metal in the construction and the use of sturdy pins and mortise joints, but the wood itself is treated so as to be everlasting.

The sideboard on page 17 and the chairs about it are made from apple wood, the enduring qualities of which were so well known to the furniture makers of the Tudor period, and even to our

New England ancestors. The finish is as plain as possible, and such a thing as varnish is unknown. The pieces are not polished and can be scoured without losing any beauty of finish or being stained by moisture.

Although much of the furniture is greatly to be desired for the all-year round house, and appears especially to advantage in the bed rooms, its greatest appeal is as summer furniture or in the summer home. Its simple, straightforward lines suggest comfort for the days when the housekeeper does not wish to fuss about continually with a dust cloth.

The light tones are particularly suitable for summer hangings and furnishings, and the color of the wood itself is cool and inviting in appearance.

The rush bottom chairs might well have been used in Anne Hathaway's cottage, and the best of it all is that they are as comfortable as they are simple. The settees reproduce the best of our New England work in designs that are suitable for the living-room, and still are durable enough for use out-of-doors in the garden. Although the inspiration is old there is a new and grace-

ful air about the articles which is certainly very attractive.

One desirable point about this cottage furniture is that the pieces produced in this style include an entire outfit for the home. That is, one does not necessarily suffer the inconvenience so often found in getting a desirable chair of a new type that does not match with an older style of furniture, and which is too individualistic to be used with other chairs. This furniture, besides the attractive sideboard and rush bottom chairs, includes several sorts of tables, from the gate-legged form of beautiful design and workmanship to a sturdy dining table that may be matched with a long bench. Bookcases, mirrors, cupboards, and even wall shelves are to be had.

Most of the pieces are so finished that the natural grain of the wood appears in all its beauty so that the air of honesty and naturalness about all the pieces is still more emphasized. They really pretend to be nothing more than *useful* articles.

Beside the applewood, spoken of above, some of the dining-room furniture is fumed oak, which is finished in a warm, neutral gray, made by using a thin stain over the ordinary oak. On account of these light neutral tones of natural tan and gray, rugs, curtains, and wall treatment of infinite style and pattern can be used harmoniously. These colors seem to generate a feeling of comfort on hot days that is not the case with so much of the upholstered and pillow-accompanied furniture that one is so often

irritated by in August.

It is not safe for everybody, especially those who cannot afford the best and most costly, to indulge in the ornate, as the taste has not been educated in the selection of the ornate, and things that are extraordinarily bad are almost invariably chosen by the uneducated mind.

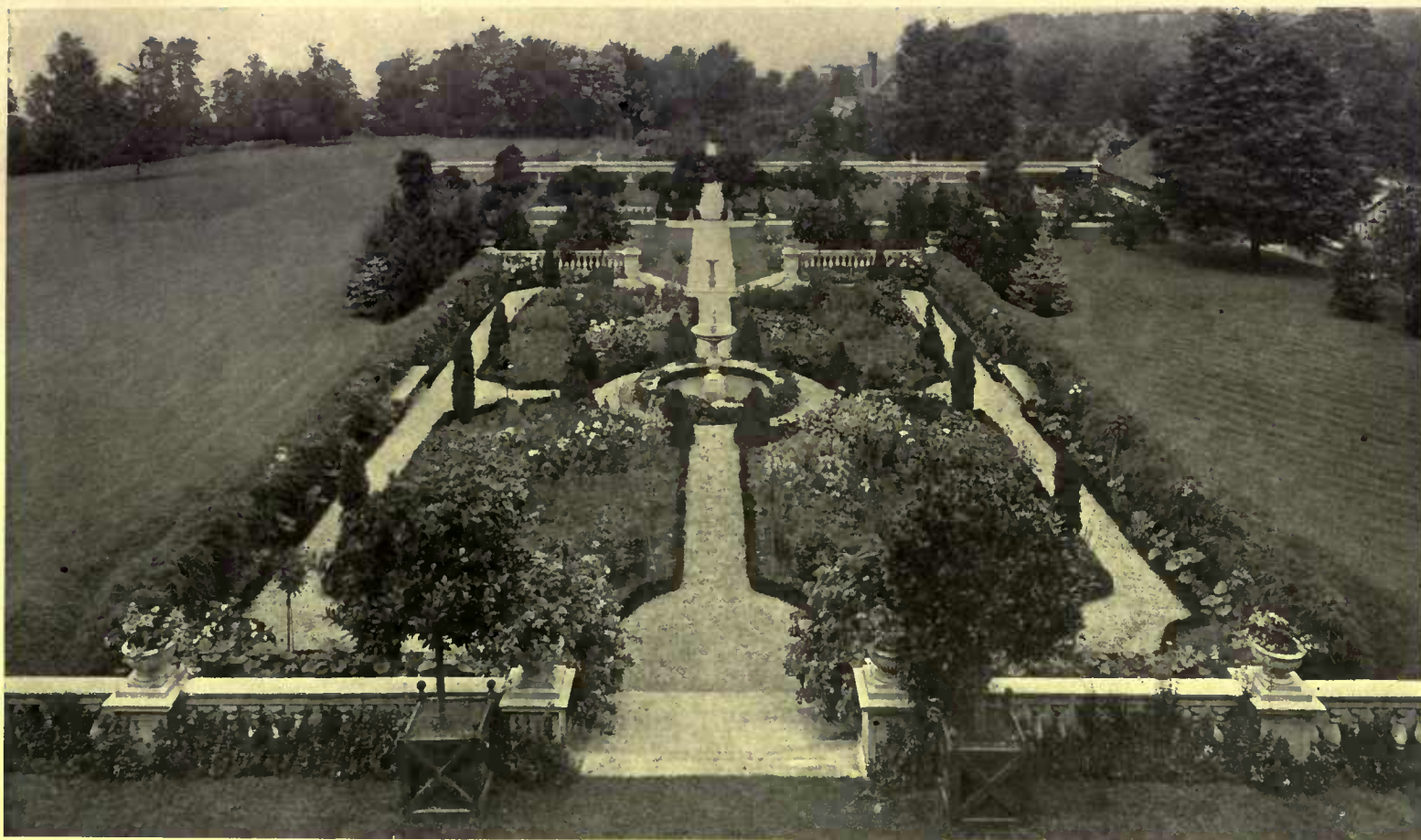
By this it must not be construed that this furniture is only for those of humble means, for it is not; indeed, some of these chairs and bookcases have been purchased to ornament the summer homes of wealthy people of taste who have a true perception of the artistic.



There is a suggestion of Old England about this table and its bench. It can be well scoured without spoiling the finish, and has the advantage of possessing real practical worth as well as simplicity



Settees may be had in varying degrees of elaboration. They are of service both inside the house and out-of-doors



The formal garden should be surrounded by definite lines so that it is made distinctive by contrasting sharply with the immediate surroundings

The Formal Garden

"ORDER IS HEAVEN'S FIRST LAW"

BY GRACE TABOR

Photographs by Mary H. Northend and Jessie T. Beals

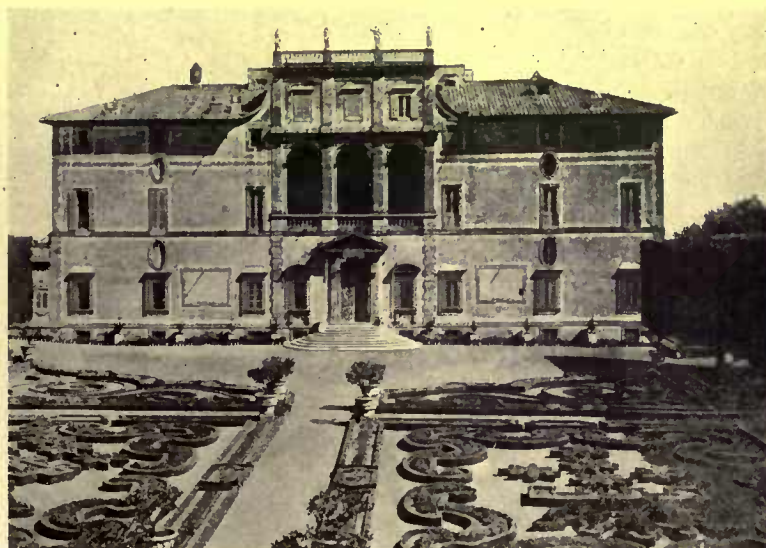
EDITOR'S NOTE.—Most people have some peculiar prejudice in favor of a certain type of garden. This may be influenced by personal tastes or by the exigencies of location. But the fact remains that there are different kinds of gardens to choose from as well as there are different styles of architecture. The purpose of this series is to show what types are available. This article describes the garden laid out in conventional lines. Previous articles were *The Utility Garden* and *The Garden of Annuals*. Other types will follow in subsequent issues.

IT is always a real pleasure to talk about something for which one cherishes enthusiasm—especially when there is to be no talking back, at least not until the say is said. So I shall now proceed to enjoy myself, notwithstanding the fact that I am forced, by a popular and unthinking prejudice, into an attitude of seeming defense which my spirit resents. It is my firm conviction that the kind of garden which I am here allowed to discuss needs no defense—that it is the people who condemn it who need that. I believe in it with all my heart; its beauty is so refined, so seemly, so complete, that it is in the nature of presumption to say that argument is required to support its claims. Nevertheless, it is very true that it is a beauty which is very often unappreciated—more often than not, perhaps—and that there is a

general reluctance to admit what we may call the formal garden idea.

Why? What is the objection usually raised against a formal garden? Invariably that it is unnatural—or better, perhaps, not natural. And certainly it is not natural; but neither, for that matter, is anything else about our dwellings; neither is the painful and slavish copying of nature which some practice. This indeed, of all artificialities, is the most to be condemned, for it is wholly false, a most wretched sham, a shoddy, cheap imitation.

We cannot have any kind of garden that is truly natural, for even the one that reproduces nature most nearly is built up by a process of selection and idealization; it is its builder's conception of the natural, but not by any means



Reproduced with the permission of "Architecture."

The Villa Piccolomini at Frascati, exemplifies a formal garden of box



A garden of formal lines need cost no more than any other type of garden

the natural, pure and simple. And there is not the slightest reason in the world why we should wish to have a "truly natural" garden, any more than there is reason for our wishing to go back to the thicket and the house of boughs, or to the cave dwelling. The most that nature can give us for our gardens is plants to grow in them, and suggestion and guidance in their arrangement; and though we may "naturalize" colonies of narcissus, or iris, or snowdrops, or anything which we may choose to handle in this way, and though we may follow the hints which wild growth gives us in the massing of shrubbery and the selection of varieties, and their relative positions in the mass, we still are very far from having what a purist would allow to be truly natural effects.

It is, of course, not possible here to consider the claims of the two schools into which the arts are divided—the idealistic and the realistic. The question of whether art should reflect nature absolutely and stop there, or whether it should go further and refine—go further and point the way, as it were, to greater perfection than the strife of nature can possibly achieve—is one which I must overcome the temptation to argue. But I am constrained to say that I personally believe that the fine arts are necessarily inspirational as well as reflective, that there is no virtue in merely reflecting, that they must constantly embody the suggestion of refinement and growth toward a greater perfection, even while they reflect. And that garden making is most surely one of the fine arts.

At the head of this discourse stands that line of Pope's which seems to me the expression of a more complete conception of the universe than has ever been made within so brief a phrase. I should like to direct attention again and again to the great

thought therein embodied, and especially to the meaning of the word "order." What is order? Conformity to law or decorum, the dictionary says; further, a formal or regular disposition or arrangement. Order is the opposite of chaos and confusion; it is the best, the highest, indeed a *sublime* condition, in whatever it is expressed. And the formal garden at its best is a garden of perfect order.

Very possibly, however, there is some confusion between the terms "formal" and "symmetrical." The formal garden is not by any means necessarily the symmetrical garden, although certain portions of it may be, and usually are, symmetrically disposed. And I am the last person in the world to argue in favor of formality, even in this true sense, throughout all the portions of an estate. That would be as tiresome as the utter lack of it. But order—conformity to law, tranquillity—this should be everywhere expressed.

The whole subject resolves itself into a question of composition, when all is said and done, and it is impossible to isolate any one feature and consider that it represents the whole. Formal gardens are essentially appropriate settings for a dwelling, or indeed for any sort of building; and the more stately and formal the building, the more stately and formal the gardens should be. This is simply a matter of harmony in composition, as any master of design will declare. And formal bits, secluded perhaps

yet not actually detached from the buildings which go to make up a home, are likewise perfectly consistent.

The example given in Plan II is an illustration of what I mean by such bits, secluded yet not actually detached. The entire scheme of



Weld is an example of French formality that is absolutely symmetrical



A beautiful, mosaic effect is obtained by planting annuals of a single color in each of the box enclosures



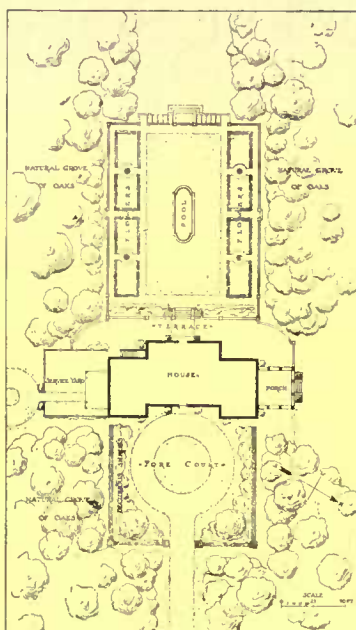
This garden combines the conventional beds of box with flowers grouped about a sun-dial, and is very effective

bordered walk, rose garden and "dell" follows manifestly formal lines; the dell is secluded, almost unsuspected indeed, lying low on the hillside as it does, yet the unity of the composition formed by house and garden together is not interrupted. The rose garden is likewise secluded, in a less degree to be sure, yet very definitely; and the lines of the entire place work into formality as they approach the house, without being symmetrically disposed except at certain places.

Following the informal character of the dwelling in this instance, the design of the garden is worked out somewhat informally. There are stepping stones through the rose garden instead of a gravel or brick walk, and the rose trellises are of birch saplings laid across and bound to upright cedar posts. With a statelier house, such treatment would of course be unsuitable, yet the basic lines of the garden design would not of necessity be altered in the least. It is likely, however, that some further elaboration immediately before the house would be needed, to bring the structural element out into the garden. Balustrades, leveled terraces and terrace steps instead of the long, gradual and continuous slope are means to this end, and, with lily pools on the terraces perhaps, they would transform the entire scheme from one of simple hominess into one of imposing stateliness.

An example of formality and perfect symmetry is shown in the first plan, and here the composition is so good and the spacing and proportion so perfect that even the plan of the place on paper has a decorative quality. It is the essence of refined beauty of line and mass, simple and majestic. Here, by the way, is something to be noted: the lines of this garden are parallel to the line of vision, while the lines of the garden in figure II are horizontal to the line of vision. This is because the view through the clearing of oak forest is a view that stretches away along the length of a valley, while the view in figure II is wide and comprehensive, across horizontal lines of low hill-tops stretched against further hill-tops that fade into the distance.

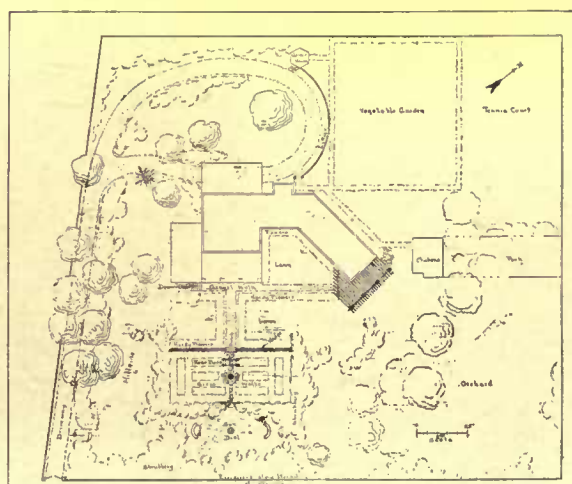
The extreme development of formality in garden design, which is doubtless the occasion of much of the prejudice against formal gardens, is found in the fancy beds which do not belong to an admirable period of the



Plan I has a decorative value because of its symmetrical design



Many English formal gardens achieve distinction by being set below a walled terrace from which they may be overlooked



The garden in Plan II runs in lines horizontal to the house, as it commands a wide expanse of view

art. Yet even certain extremes of this sort of thing have demonstrated a beauty of form which is as satisfying in its way as flowers in profusion are in theirs. Not that there are many examples, to be sure; and not that a fitting together of forms geometrically is sufficient. Gardens of geometrical flower beds alone are hideous. But the beauty of the boxwood beds at Mt. Vernon, the home of Washington, is indisputable; and the classic design of the similar boxwood convolutions in the gardens before the Villa Piccolomini at Frascati, near Rome, is so exquisite and in such harmony in the composition that these are conclusive evidence of what might be done more often, given greater refinement in the designer. In such as these the boxwood is the feature, however; it is used for the execution of the design, which thus becomes a pattern in relief. Without this—executed simply in flowers or foliage plants at a level with the walks—it would fail completely in its effect.

Such gardens are "green gardens" primarily, and not flower gardens. They may be ornamented with flowers of course, though sparingly, but their purpose is not the raising nor the display of flowers. Perhaps it is because we have not learned to dissociate gardens from flowers that we repudiate them. That such dissociation should sometimes be made, there is no doubt. There is a severe dignity among the rich greens of boxwood and of bay that is very sweet and very suggestive of peace and repose; and no one could be trivial, I am sure, who lived in the atmosphere of such a garden well designed. The constant impression received from their quiet, chaste orderliness, affects the mind of

the observer very definitely, I hold; and to bear me out in this I have found that it is invariably the undisciplined character, the lawless mentality, and the most material temperament that is the most intolerant of this form of garden. This may be only coincidence, but I do not think so.

Even the smallest plot of ground may be developed into an interesting "garden" under formal treatment, and at very small cost. Indeed, such treatment is usually the only thing that will rescue a very small dooryard from utter commonplaceness. Given, for example, the ordinary suburban unit of two lots, 20 or 25 by 100—that is a

(Continued on page 49)

Saving On The Summer Home

BY MINNA B. NOYES

THIS attractive little bungalow, which we built last summer, has proved very satisfactory and is a constant source of pleasure. It is on rising ground not far from a river and is well adapted to its surroundings besides being conveniently arranged. In fact, you can pass an agreeable summer there with all the advantages of the country and many city conveniences as well.

The foundation is of stone, and, although the interior is left unfinished for the present, the timbers and foundation are such that, at comparatively slight expense, the building could be made suitable for a permanent home.

Concrete was used for the floors and the huge fireplace and chimney are of water-worn stones, all obtained from the river-farm on which the bungalow is situated. Some of the stones are especially worthy of note for their oddly wrought surfaces, and they add greatly to the picturesqueness of the fireplace.

The hinged half-windows make a pleasing variation from the usual order, and the smaller bedroom, with its southern exposure, is a sun-parlor by day, while at night, as it has a couch-bed directly under the three half-windows, it becomes a sleeping-porch. All the windows as well as the piazza are equipped with wire screen-

ing. The novel arrangement of the door leading from this bedroom to the living-room is worthy of notice, and the triangular corner space is well supplied with hooks, forming an open closet. The half-window opening into the kitchen from the living-room is most useful when setting the table, which is usually on the piazza, although the window was not inserted for that purpose. The bungalow was planned and partly built without a kitchen, and with a half window on either side of the fireplace, so when the kitchen was finally decided upon, the



The piazza is relatively large and well screened, being adaptable for outdoor sleeping

window was left in its original position.

The living-room has a couch-bed on each side of the fireplace, making comfortable lounging places by day. Later, it is planned to build in seats or settles and equip them with springs and mattresses, so they may serve as beds, and to have the lower part boxed in, to give closet and shelf space.

The kitchen has running water from the town artesian wells, and the drainage passes off through earthen pipes to a ditch at some distance from the build-

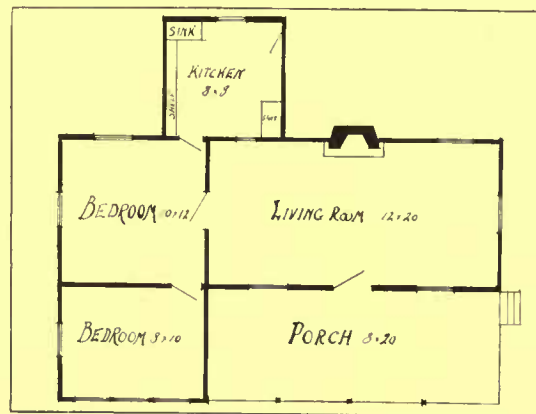
ing. In the rear is a latticed shed near the same ditch, and, as the ground here has a decided slope, all drainage passes off readily. The door and steps being at the end of the piazza instead of at the front, there is more available space, as the table and chairs are not in the way of people passing in and out.

There is ample room on the piazza for broad settles, which might also serve for beds, if one wished to sleep out-of-doors. Last summer the couches in the living-room were sometimes moved out for this purpose.

Before another season it is planned to substitute steps of stone and concrete for the present wooden ones, and a refrigerator will be built under the kitchen window on the north side. This refrigerator will be mainly underground and lined with concrete.

In the kitchen shelves are arranged over the sink and on the west side. There is also a long shelf over the stove and a shelf-cupboard above the half-window.

A building like this can be erected and comfortably equipped at a small cost, while the same idea can be applied to a more elaborately finished affair. Prices vary so much with the locality that it is difficult to give exact figures, but a fair estimate for a building of this kind would be \$350, including labor and materials. The owner, if he does some of the work himself, can easily reduce this cost.



Bedrooms and living-room are well arranged



A rear view of the bungalow shows the huge chimney built of stones from the nearby river

An Inexpensive Bungalow

BY HARRY N. HOLMES

DESIRING a small bungalow that should combine moderate cost with large returns in comfort and satisfaction, we built the one illustrated on this page. It affords more room than a hasty glance would indicate, for there are three rooms and a pantry, with nine-foot ceilings down-stairs, while the second story, made inconspicuous by the long sloping roof, has three bedrooms and a bath, plenty of closets and an attic over the front porch. The height of this second story ranges from five feet to

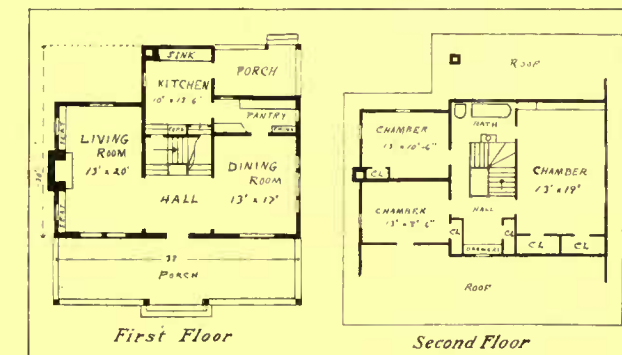


The sloping roof lessens the appearance of height, but preserves considerable room space

seven feet six inches. The bungalow covers a plot thirty-eight

feet wide and thirty feet deep. The individuality of the house is marked by the wide, rough clapboards, a boulder chimney and an enormous front porch. The peculiar long slope of the front roof lends distinction and the deep brown stain of the clapboards, brightened by white painted window frames and cooled by a green shingle roof, is restful to the eye. The smooth woodwork of the porches is painted brown. Although not clearly shown in the picture the upper part of the roof overhangs at the end, so that it surrounds the boulder chimney. The contour of the back roof is broken and improved by the projecting kitchen and a small dormer roof similar to the one in front. Small windows in these light the bath and upper hall.

We secured an impression of space by using the same color scheme throughout the first floor and having very wide doorways open from the hall into the main rooms. The walls are sand finished and tinted a rich, warm brown with ceilings that suggest either cream or tan, according to the light. The flat woodwork is Georgia pine stained dark and finished so that the beautiful grain of the wood is brought out. The ceilings are beamed, and the floors of Georgia pine are stained, varnished and oiled.



The stairs are centrally located, and are readily accessible from all rooms



The porch is given an added attractiveness and seclusion by vines trained at its ends, the front being left open

In the upper hall in a recess just opposite the stairs is a built-in chest of drawers and at the right of this is another closet. The large space above the front porch has been floored and a door leads into it from the smaller bedroom. In the front hall under the stairs is another roomy closet for coats and hats. Upstairs the ceilings are slightly broken at the sides by the slope of the roof.

Separate contracts were made with the carpenter, painter, plasterer, stone mason and others, and I super-

vised the work in person. The contracts for materials were let by competitive bids. Plans and specifications were selected from one of the well-known books on small houses, but were considerably revised to meet our requirements better. A seven-foot basement with concrete wall and cement floor extends under two-thirds of the house and affords plenty of room for the hot-air furnace, coal bin and storage.

The cost of this bungalow was \$2,400, but, as materials were very expensive in this town, it is probable that it could be duplicated in some places for much less. Grading, sodding and cistern cost but little more than \$100 and \$500 paid for the furnishing complete. As lots vary so widely in price that is left out of the estimate, so it is not overstating it to set the cost of building and furnishing this home at \$3,000.

We did not consider our home finished, however, when the house was completed, but found the further expense of planting a small item. Quick growing vines, such as Kochia and Dutchman's pipe, soon made a living curtain at the sides of our porch, and gave a pleasant, diffused light in keeping out the glare of the sun.

The negative of the first picture was reversed, hence the chimney appears at the wrong side, compared with the plan.



The Brittany pottery of this sort is very durable and fitted to a number of uses

Making the Summer Home Attractive

PERTINENT HINTS FOR HOT WEATHER FURNISHINGS—RUGS, CURTAINS, FURNITURE AND POTTERY FOR CAMPS AND INFORMAL HOUSES

BY HETTIE RHODA MEADE

Photographs by Herbert E. Lawson

SO much has been said and written about the furnishing of summer homes that it is difficult to find the "something new under the sun" with which to freshen up this year, or with which to furnish anew. When all is said and done, however, most of the so-called new things are old; we have only just discovered them, or they have just come into style again after having been in disuse for a number of years. At least, if we may not have the "something new" for which every home maker is looking, we may have a new adaptation of an old article, or old materials with new designs, of domestic manufacture, or we may find in our travels abroad some quaint things that will admirably fit into our bungalow of informal character.

The greater number of moderate priced cottages built to-day are finished inside in rough plaster, or the partitions and inner walls are of double beaded, tongue and groove boards. Either finish admits of many charming ways of furnishing for both are strictly informal, and the color of the walls in either case is so unobtrusive and neutral that draperies and furnishings of the most cheerful hues may be used without danger of clashing with the wall color. Where the rooms are finished with tongue and groove partitions, the boards may be stained a different color in each room and many delightful color schemes can be carried out against this irregu-

larly stained background. The partitions may extend all the way to the ceiling or may be carried only part way up. The latter arrangement gives a greater sweep of air to the rooms that are not of very ample dimension, and admits of some pretty arrangements by having a board six or eight inches wide finishing the top of the partition, on which may be arranged potteries, old coppers or pewter, in which there may be some trailing plants. This arrangement is practicable only in bungalows of the most informal character, for little privacy is to be enjoyed in rooms divided in this manner.

While willow furniture is not in any way new, the manufacturers of this popular style of furniture are continually turning out chairs and tables of new and comfortable and convenient shapes. The little stool shown in the illustration is a most useful piece of furniture for it can serve so many purposes. Placed next to a couch, it is a very convenient height for books or for the tea tray, or it is a very comfortable seat.

A manufacturer of willow furniture has recently made some willow beds. They are of pleasing proportions and the canopy top admits of a number of pretty treatments. The cretonnes or silks with which the rest of the room is furnished may be used as dainty draperies for the bed. Dressing tables of willow are made also. These have over the woven willow



India prints come in assorted sizes suitable for curtains, pillow covers or spreads



Willow furniture has a growing appeal and all sorts of useful articles are now made of it



Against a plain stained wall the India prints with their bold colors and designs show to excellent advantage

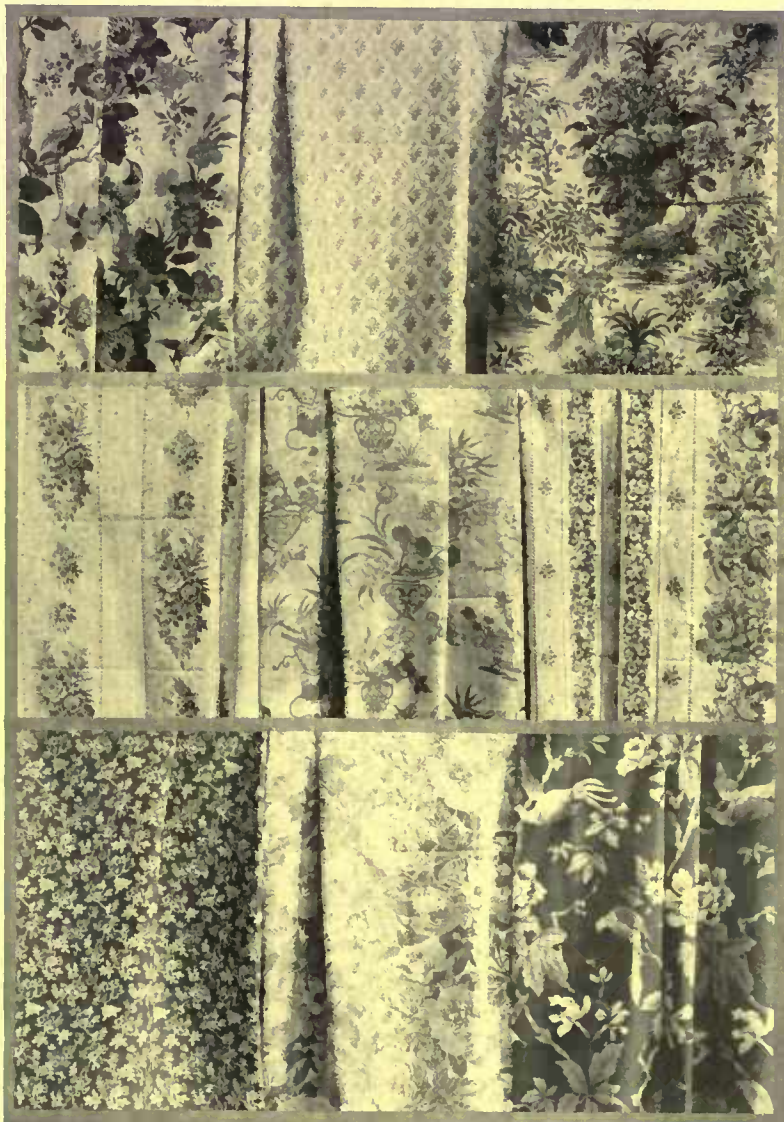


Japanese linen sash curtains come in either blue or brown

top a very heavy plate glass which makes them practicable. So the bedroom can now be furnished completely with willow furniture if one choose to have it so. And very pretty it can be, for the willow takes different stains and enamels very successfully, and almost any color scheme can be worked out, from a simple white and pink room to a rich furnishing in antique gold and old blue, or rose, or violet, as the owner may desire.

Some very effective hangings that come to us from India are particularly appropriate for the informal summer room. These are the India prints which are made in northern India. Unusual designs in excellent colorings are printed with wood blocks on a heavy cotton goods. As the material is inexpensive, these cotton prints are very moderate in price. There are printed squares which sell for one dollar, which may be used as table covers, or made, by "enveloping" them, into sofa cushions. Portières, couch covers and bedspreads are also to be had. They are printed in a number of bright but harmoniously combined colors, or in different shades of blue on a white background. The couch covers or portières cost from \$3.00 to \$3.50 and the large bedspread, a particularly effective piece of color and design, sells for \$7.50. A room furnished with these India prints used for the couch cover, pillows, portières and overhangings is very effective. Most of the prints contain a good deal of orange and blue, a striking color combination, which, with a deep blue rug, and touches of orange in pottery and flowers, makes a very pretty and cheerful setting, particularly appropriate for living-room or dining room.

The new cretonnes now shown for the spring trade are printed in effective designs and colorings. Chintzes and cretonnes with a black background con-



Of chintzes and cretonnes the designs are legion, with bird patterns and Chinese motifs much in evidence



These curtains keep out the hot glare but admit light

tinue to be very popular. Both large and small designs are used, and this striking material when used with discretion adds a strong note to the room where it is employed in the draperies and other furnishings. It must be used judiciously, however, for it brings into the room very marked contrasts, which are not pleasing when too conspicuous. Patterns in dainty colored stripes add to the height of a low ceilinged room, and may be cut to excellent advantage for bands of trimming for the curtains, bedspread, and "runners."

The "Chinese Chippendale" pattern has vases of various shapes filled with flowers of every hue, and showing the influence of Oriental drawing. This pattern is particularly quaint and pleasing. A design of wild and cultivated roses in soft grays and violets on an écru background is particularly fine for the hanging of a gray and violet bedroom. These are only a few of the new spring designs. Most of these cretonnes retail at about 65 cents a yard.

Very attractive Japanese curtains are made of a loosely woven linen or jute, stiffened slightly. They come in two colors, blue and brown, and in two designs; some wild flowers and grasses against the moon, and a very much conventionalized wave, with the spray, in the form of dots, splashing up onto the curtains. The curtain is divided in two, the design matching perfectly. They are not meant to be shirred, but should hang straight against the window in which position they are particularly desirable as they let in plenty of light, and from the outside they are quite impenetrable—that is, in the daylight. At night, with the light behind them, the shades would have to be drawn as with other transparent curtains. These Japanese curtains are meant for sash curtains only. They measure 36 inches wide and 54 inches long and

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A pottery substitute for running water and basin

A Maine Garden

BY ANNA G. BALDWIN

Photographs by the Author



HE experience began with a stone heap, a wet spot and a clump of wild iris, with the veriest of tyros as its ambitious promoters. Previous experiments in various places on the stony hillside had all proved such dismal failures that the high hopes of the experimenters had well-nigh reached the vanishing point.

Possibly the more truthful—because the really fundamental instigation—was the forlorn hope that this naturally moist spot, encircled by sheltering evergreens, might prove more congenial than the other avowedly unfavorable selections. At any rate, it was decided in solemn family conclave to show what could be done by improving nature, and demon-

strating that perhaps even a rocky Maine hillside could be made to blossom into beauty.

Accordingly stone steps were built down into the "wet spot," the sun-dial placed at the top to point the way, and the hitherto useless rocks metamorphosed into artistic retaining walls for the terraced beds on either side. Good soil was brought to fill up the space thus walled in, and at last our efforts were rewarded.

A variety of annuals — scabiosa, phlox, salpiglossis, and snapdragons, such as we had only dreamed of in the dark days of failure—smiled a welcome when-

ever we approached. The stone heap, originally designed for sedums, was transformed into a sturdy bed of foxgloves rivaling their far-famed English cousins of the country hedgerows; and the solitary clump of iris attained the dignity of a stately twelve-foot bed, which was a pure delight from early June, when the procession of bloom was ushered in by the delicate little *cristata*, followed in turn by the Spanish, German and Siberian varieties, until the Japanese forms closed the season with their regal showing. Hollyhocks, too, flourished against the rustic trellis, built for their support during the times of stress when severe storms would otherwise have laid them prostrate.

Two years in this garden plot have wrought a complete transformation—a white latticed garden house affords an enticing resting-place to the weary gardener—for it is a continual warfare against cut-worms, drought and weeds. But the reward is great, for the pansies and other flowers have grown and flourished, and all summer long until the fall exodus cityward begins, they "make good" with such a luxuriance of growth as had not seemed possible during the experimental stage.

There is a way out of this delectable spot, over a corduroy path and under a pergola destined eventually to give support to bitter-

sweet and wild jessamine. At one side of this path is the "Birds' Rock," crowned by a miniature bath where robins, flickers, purple finches and crossbills contest precedence all day long and are totally unabashed by spectators on the garden seat nearby, while nuthatches hang head downward on the cone-laden branches over-

(Continued on page 48)



A rustic gate leads into the garden, which, although surrounded by clustering evergreens, is low and moist enough for the successful growth of a variety of flowers



The corduroy path goes past a rough boulder on which is a bathing place for birds



At the top of the stone steps which lead to the garden a sun-dial has been mounted

Reclaiming Old Houses

BY CHARLES EDWARD HOOPER

Photographs by the Author

EDITOR'S NOTE.—So many people are seeking the old house as the ideal country home that the subject bears much more than a cursory treatment. Mr. Hooper's wide experience in dealing with the problems of remodeling old homes makes him especially fitted to give the practical instruction necessary to make the undertaking the delightful success that it is in so few cases. For the first time the whole subject will be fully developed. The first article dealt with the choice of a house, and told what one should know before purchasing—what is good and bad and the test for determining a satisfactory site and building. This treats of just what to do with a practical example. The next issue will take up the discussion of hardware.

WHEN one has become possessor of an old house and then stands face to face with the real problem, it is well that he pause and consider the thing seriously. Instead of laying down rules to illustrate one method of handling the following problem, we will try to give material for this consideration by telling how we attacked our own problem.

To begin with, the original, as near as we can get at it, bared of all the good and bad additions of later dates—mostly bad—had an eight-room plan in two stories, which stories were about 7 feet 8 inches and 7 feet 2 inches respectively. The arrangement is one of the early forms used in the Connecticut Valley, but the house itself was not as old as its plan. It had, however, a good solid oak frame, reasonably sound and fairly level, but unfortunately somewhat out of plumb, and the siding seemed to have been put on before the defect was discovered. We have concluded this from the fact that the doorways of the cross-partitions flanking the front entrance were true and plumb and the casing next the outer wall was tapered to fit—all being old work.

The outer covering was of double grooved siding, which



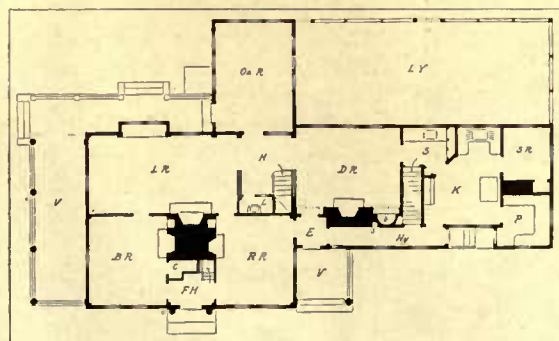
The front of the house after alteration appeared plain and simple and is what would be most natural for the period and local conditions



The rear is the river elevation and from this open air room the outlook is of the very best

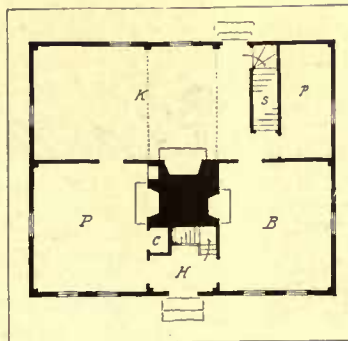
when fitted together showed an over-lap as in common clap-boarding. This was laid directly on the frame without boarding—an old method—but the old-time brick wall-filling did not occur. There was no gutter to the roof, which was hipped and of about a thirty-degree pitch. The old chimney was built largely of stone laid in clay mud (an old custom) with occasional interjected and apparently meaningless pieces of oak timber. The visible portions of the fireplaces were of brick laid up in lime mortar, with brown freestone caps and hearths. The caps were in good order, but the hearths were cracked and much the worse for fire; the whole chimney was unsafe and had been unused for some time.

When the job came into our hands there was a long telescopic addition of one and one-half stories attached to the rear, extending from the corner of the pantry to the post beyond the door. The first unit was evidently a new kitchen; the next and the next, unclassified and all of different dates. Had its outreach not been stopped by a large apple tree, it might have gone on and on into the river. This series was ancient enough to boast of an old hand-made wooden gutter, but a covered piazza extending around four sides of the house

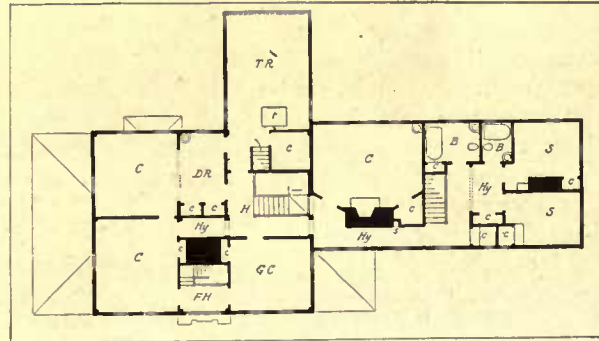


Remodeled plan—first floor

Oa R, Open Air Room; E, Entry; V, Veranda; L, Lavatory; S, Stairs; S. R., Servant's Room; B, Buffet; S, Standpipe; L. Y., Laundry yard; R. R., Reception Room.



The old plan as it existed before alteration, showing the arrangement of early days



Remodeled plan—second floor

C, Chamber; G. C., Guest Chamber; F. H., Front Hall; Hy, Hallway; D. R., Dressing Room; B, Bath; C., Closet; S., Servant's room; T. R., Trunk room; T., Trap.

was of that period when the decadent wooden "Gothic" ran riot and the jig-saw was a thing to be played with rather than used. Then, too, the windows on the front and ends had been narrowed for window weights and also cut down to the floor, with the obvious purpose of affording easy access to the piazza, which feat was easy, if one cared to *crawl*.

As a matter of fact, the first problem was the rebuilding of the old chimney, which was torn down to the level of the first floor. In the living-room or old kitchen, the fireplace was reduced from five feet to four feet in width because the original was much too close to the woodwork to suit our fancy. All masonry was kept two inches from the woodwork and air chambers were built in the flanking jambs as an extra precaution. In the parlor we had a three-foot opening and in the room marked "B" we got a two and one-half foot opening. A light segmental arch was turned back of the brick facing above the caps to relieve them of what little weight might occur above. The old caps were redressed and reset, but cut out slightly at the back to accommodate the Murdock throat and damper. For the hearth concrete was used, but while it answered very well for the smaller openings, the larger one, owing to some imperfection or perhaps from the excessive heat, crumbled slightly in front of the fire and so we were obliged to introduce a raised hearth of fire-brick, a possibility we had foreseen and withheld. This raised hearth has at least one practical advantage outside of its natural properties: it forms a definite line of demarcation between the fireplace and the room, and hence there is a limit set to the loose ashes. It is hardly necessary to state that we used tile flue linings; their advantage is evident.

It was first intended by the owner simply to rebuild the chimney and let the rest hang over for a while, but a careful inspection discovered so much to be done to get the house into passable shape that it was decided not to waste time and money on temporary repairs. Therefore after patching the roof for the winter we got at the problem of the new layout that it might be ready in the spring, and as fast as anything definite could be decided upon for the carpenter, we let him have it to help the thing along.

As to the plan here shown, it is necessary to understand that modern requirements differ from those of old times and in introducing the piazza, for instance, we have made the house of a later date than it really is. As a visible feature and in order to avoid conflict, we have introduced a column which follows a certain sectional craftsman's crudeness, thus going back to early types and methods.

It was decided at the start that the "telescope" and fancy piazza had better go. This left the original block of the house and a far simpler problem to contend with. As to utilizing the old plan, it seemed best that the old kitchen should serve as a living-room—one of its original uses.

This was away from the street, but the outlook up and down the river demanded it. Then, too, the house was near the street and herein was another reason. The fairly sunny parlor was to be used as a sleeping room for the older generation and the old bedroom as a reception room. The old pantry plus the old back stairs were to afford space for the new main staircase, the old-time front stairs remaining as they were. While the old kitchen was ample as to size and relative placing to serve well the purpose of a living-room, yet its window area was inadequate. We therefore introduced the square bay in as simple a form as possible so as not to disturb the general simplicity of the exterior. As the bay was not a feature of this particular type we avoided crowding the windows and left a rather heavy mullion between them. The built-in seat suggested itself naturally and by making a raised cover we gained stowaway room for papers, magazines and the like. There was one overhead cubby in the parlor; we replaced this and added another in the reception room.

Perhaps the first impression one gets in comparing the original house and the addition is that of the tail that wags the dog, but this problem is one of many similar, in which the house belonged in the family and still was not sufficient in size to meet the new requirements which were placed upon it.

It will be noticed that the rear wall of the new ell does not correspond with the similar wall of the old house, and on this account the eaves on this side are naturally lower in order to keep the roofing planes together. This was made necessary on account of the old windows in the reception room and guest chamber, which prevented our bringing the addition nearer the street. The position of these windows was very good and hardly worth while to disturb. We fancy that the better sort of old craftsman would have done much the same with this problem.

The open air room, which replaces the removed kitchen addition, has sheathed walls

and ceiling, but the floor is the same as in the rest of the house. The wooden walls give it a little more freedom, more the porch character, and as a matter of fact it is really, as its name suggests, as much of an open as a closed-in feature. The construction of the room is rather unusual: the sill being dropped below



The reception room mantel, showing the well-balanced panels with the added ornaments



The house as it was found and in the first stages of alteration of the chimney and the dining-room

the floor timbers so that the lower sashes which are weighted may be dropped into pockets and hinged window-sills dropped back over them. The upper sashes are hinged and swing to the ceiling, and thus the whole window area can be utilized; in damp weather they are readily closed. Outside screens and awnings complete the utility of the scheme.

The particular points of the plan may be readily seen. The kitchen end is merely a modern arrangement without regard to Colonial style. There is room enough and not too much. The cook has a sink and shelves out of the way of any passing traffic; her pantry is ample and well lit; she is handy to the tradesman's door and can see readily who is at it; two windows on either side gives cross ventilation; also a register over the stove connects with a vent flue in the chimney, which is warmed by the range flue. The kitchen dresser is handy for both cook and second girl, and together they have a small room of their own with a good river view. There is room in the pantry for a small ice-chest, which may be filled from the outside by opening the swing window and dropping an inclined platform.

The reception room is easily accessible from both the front and side doors, the last of which is most used. The servants can answer the bell with but little intrusion on the rest of the house and can at the side door "spot" the visitor before opening. There are, as should be, two doors between the kitchen quarters and the rest of the house.

The basement is reached by stairs from the hallway in the new part, and at their foot is the outer door to the laundry yard. Owing to the quick grade, full sized windows were possible in the end and yard side, the stonework coming only to the height of the sills in the latter instance. The laundry occupies the end under the pantry, servants' room and the major part of the kitchen. Next to this and the outer door is a toilet. The coal bunkers are next the wall under the hallway and entry, while the space below the dining-room is reserved for the future heater. The old cellar is poorly lighted and is used for little more than a storeroom. Under the open air room is a well lit area accessible both from the old cellar way and the laundry yard.

The second story has required more alteration of the old part than on the first floor; and with the single chimney plan this is always the case. Our forefathers were contented to go through one room to reach another; we, however, object to this. The old chimney took up all the space as in the lower story, but we were obliged to rake it toward

the old front stairs to gain the hallway to the front corner room. We also stole from the guest chamber to continue this to connect with the new part. In the original plan there were no fireplaces on the second floor and it was deemed best to leave them out in the alteration in favor of the small closets. We provided, however, three small flues for stove connection in the three chambers, in case of emergency. The small closets *are* small, but they are only for immediate use, the large closet off the trunk room offering plenty of stowaway room.

The new staircase is lighted by borrowed light from the two windows in the long hallway and has filled its mission perfectly. The staircase is centrally located and reaches the vital points of the second floor easily.

It will be seen from the plan that the servants are cut off from the rest of the house by a large flat and curtained arch. Within this section are the bedrooms, bath and ample closet room. There is one point which might have been bettered: the family bath is not centrally located as regards the chambers. Even if left as it is, a supplementary toilet would have been well placed in some handy part of the trunk room. The idea of its present location lay with the owner and the idea was to reduce the very considerable plumbing into one upright stack. Economically it is a success.

It will be noticed that there is a standpipe in the hallway of the new part. This is of two-inch galvanized pipe and extends from cellar to garret. It is fed from a reservoir on the hill above—the common water supply of the house. On the three floors proper, a fifty-foot linen hose hangs on a bracket rack, ready at all times for use. With this all parts of the interior can be reached. In the basement the hose is one hundred feet in length to allow for out-of-door use.

In the trunk room floor there is a scuttle through which the trunks are hoisted with aid of a tackle from the room below. This saves carting them over the house, more particularly over the stairs.

Having considered the plan as a plan, let us go into the general finish and design:

The building itself belongs to the middle of what may be called the Georgian period—about 1714-1820. Its style is extremely simple in both outline and detail. Its location on the map is about middle of the State of Connecticut, and on

the Connecticut River. This last being an old-time highway, it was natural that there should be much intercourse between the various settlements bordering it, and hence one may naturally look for a great similarity in the style of building over this entire

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The dining-room fireplace and china closet built in at its side, showing good Colonial motives



The porch end shows the square bay and the roof shape of the open air room ell



There is an ever increasing tendency to make of the porch an outdoor living-room rather than a mere convenience for occasional summer use, and to adorn it with hanging and potted plants as well as suitably designed furniture

Making the Most of the Porch

THE MODERN IDEA OF UTILIZING THE PIAZZA AS AN OUTDOOR LIVING ROOM AND HOW IT MAY BE SUCCESSFULLY CARRIED OUT—THE REQUIREMENTS OF PORCH FURNITURE AND FURNISHINGS

BY SARAH LEYBURN COE

Photographs by Mary H. Northend and Jessie T. Beals

THANKS to the constantly increasing appreciation of outdoor life, aided and abetted by the designers and manufacturers of certain kinds of furniture, the great American public has taken to spending its summers on the porch.

As a result the average porch is undergoing a complete transformation. It has lost its resemblance to the summer hotel piazza as equipped for the annual campaign of the rocking-chair brigade, and the straight, prim looking row of chairs has given way to furnishings that make it an open air apartment of comfort and beauty. The joys of spending long summer days out-of-doors, protected at the same time from sun and wind, and among surroundings as comfortable and convenient as when one is in the house cannot be over-estimated, and the porch itself has become a most important feature of the modern house, whether in town or country.

So varied are the facilities for furnishing a porch that it can be done in almost as many different styles as one of the indoor apartments, although of course there are two important things to be



Porch furniture should be of such a style as will successfully withstand moisture and exposure

taken into consideration. One is that the furniture should harmonize with its outdoor surroundings, looking as if it belongs on the porch, and not as if it has been temporarily borrowed from the house. The other that it is substantial enough not to be injured by wind and weather. While not necessarily waterproof, as lawn furniture must be, there are times when a sudden rainstorm or an inadvertent leaving out over night will work havoc with furniture not especially constructed to meet such emergencies.

The porch that is to serve the purpose of an outdoor living-room should be the most carefully planned part of the house that is to be used as a summer home. All of the characteristics that go to make up the charm of such a place ought to be considered first in relation to

the porch. The most perfect view should be commanded by it, it should be so situated that the prevailing breeze cannot fail to keep it cool, and most important of all, it should be as private as circumstances can make it.

Fortunately for the latter condition, fashions in porches as

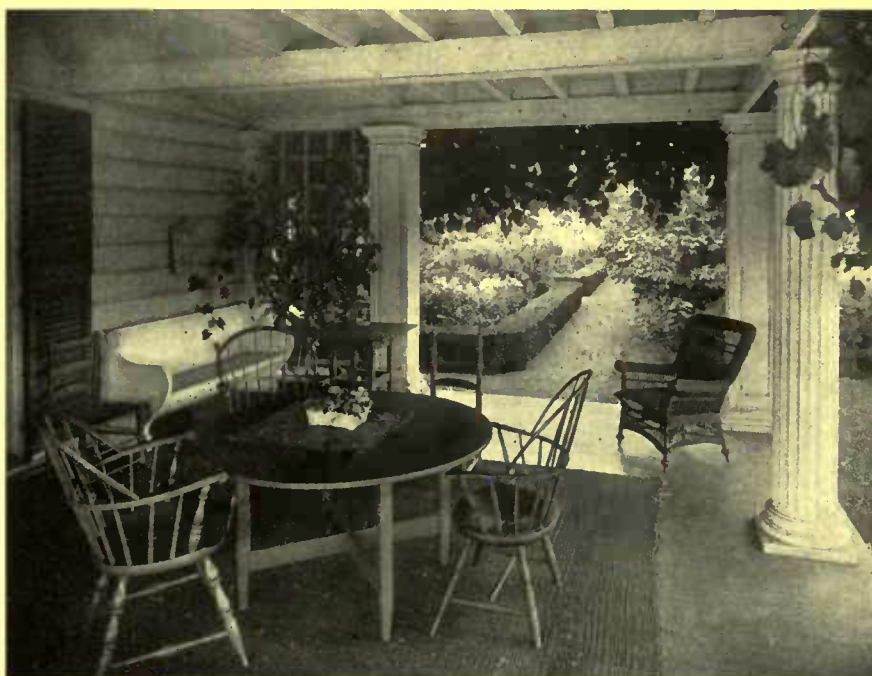
in their furnishings have changed. It used to be that the porch was as certain to be placed across the front of the house as that the kitchen was at the back of it. The owner of a big front porch was at the mercy of sociably inclined passersby who sought an attractive loafing place, and neither quiet nor privacy was possible.

While the front porch is by no means an out of date institution, there is a growing tendency on the part of architects and owners to curtail its dimensions, making it merely an adjunct to the main entrance of the house, and to build the outdoor living room at one side. Sometimes this room is in the form of a regulation side porch, giving a second entrance from the lawn into the house, but more often than not it is accessible only through the house, and is as absolutely private as an upstairs room. With the development of the outdoor-room idea the porch has become an integral part of the house, rather than an excrescence, or an after thought, as so many of the old porches appeared to be. From the little bungalow, with its porch tucked snugly away under an extension of the roof and protected by brick or cobblestone sides, to the pretentious house that boasts of an elaborately fitted up piazza, one is impressed by the fact that the porch of the modern house is designed as an extra room, and not just a lean-to sort of an affair for the ornamentation of the exterior of the house.

In fitting up such a room, plants and flowers naturally demand consideration, even before furniture and rugs. One would as soon think of a library without books as a porch room with its green and growing things. If there is a ledge sufficiently wide, window boxes filled with scarlet geraniums or nasturtiums in a variety of colors are most attractive. Provided of course that the enclosure, whether a wooden railing or a brick or concrete wall, is not so high that the boxes shut out light and air and give a stuffy effect.



The combination laundry table is a useful style



A porch should be in appearance as well as in fact a cool and shady retreat on hot days, with comfortable, sensible chairs and settles



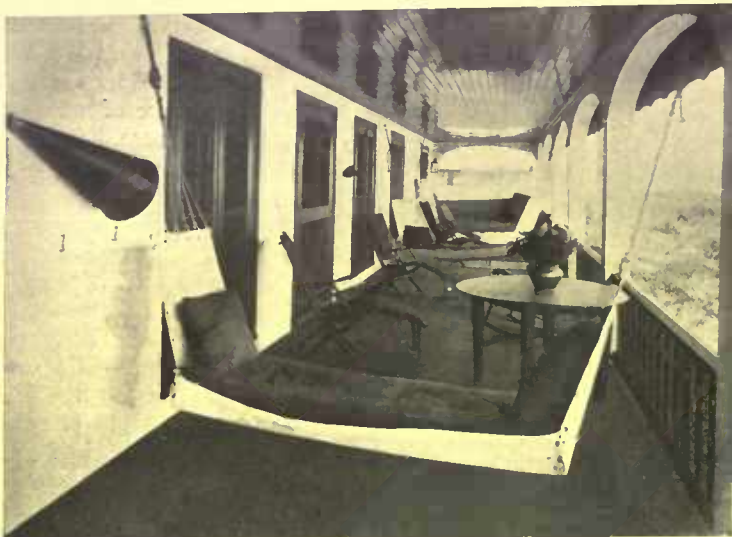
Flexible screens or curtains that can be raised or lowered at will may be arranged to shut out direct sunlight

For a porch of ample dimensions potted plants are good, and sturdy looking palms and ferns add considerably to the cool appearance of a shady veranda. Too many of these, however, are apt to clutter up the place and get in the way, only to be knocked over and smashed to pieces, so that for large porches as well as small ones, hanging pots, filled with ferns or vines or trailing nasturtiums are decidedly more practical. These can be hung from the outer edge of the porch roof, or if there are screens that will interfere with them here, they can be attached to heavy brackets of wrought iron placed on the pillars or against the side of the house.

Where it is not possible or desirable to care for a number of plants or hanging vines, a single window box, on a substantially built stand in a corner or against the wall, where it will not take up too much room, gives at least the touch of nature that the outdoor room requires.

The worthy rocking chair, without which no well regulated porch used to be considered quite respectable, has been routed by big, broad comfortable chairs in wicker and splint, swinging settees, and the picturesque Gloucester hammock that is quite large and comfortable enough to be used as a bed if necessary. Made of heavy sail cloth, with denim covered cushion and pillows, it is the final word in porch luxury. Usually it is swung like a hammock from heavy iron hooks in the ceiling, though sometimes there is a pulley arrangement by which it can be hauled up out of the way when not in use. The swinging settees of willow are also fitted with cushions and either hang by chains from the ceiling or swing in a movable frame of iron.

In addition to these there are various adaptations of the steamer chair. The person who decreed that this sea-going article of furniture would be equally useful on land conferred an inestimable blessing on porch-dwellers. Padded covers of cretonne or denim that can be bought ready to tie on will transform the most uncompromisingly



The comfortable steamer chair and the swinging Gloucester hammock are well adapted to seaside porches like this one



The piazza rocking chair, popular almost from time immemorial, is yielding to the wicker styles, which are lighter

hard steamer chair into a thing of solid comfort, if not of beauty, for the porch.

Using it as a model all sorts of chairs have been evolved. Elaborate affairs in willow and wicker, built with just the right slant to the back and the right "hump" under the knees, are cushioned and fitted with all the comforts that contribute to perfect peace on a lazy summer day. Some have deep pockets on either side for books and magazines, others a convenient receptacle in one arm for a glass, and one model has a complete smoking outfit snugly tucked away in one side, in addition to provision for liquid refreshments.

Rather picturesque are the steamer chairs with wooden frames, the back and seat formed by a piece of striped canvas in gay colors. The same style is made with a light iron frame, and as both kinds fold up into a small space they are particularly useful in contracted quarters, or where extra chairs are kept at hand.

Porch furniture is of necessity moved about so much that one important qualification is that it be light in weight and easily handled. For this reason, therefore, willow furniture is more generally popular than the heavier wooden pieces, and in willow there is every variety that could possibly be required. Chairs are made in all shapes and sizes, with settees, swinging seats, tea-tables, work-tables, book and magazine tables, flower stands, tabourets and baskets, and the general scheme of furnishing and decoration is limited only by the designs of the cretonnes which are numberless, and the colors of stain available for the furniture.

Except for rather elaborate sun parlors, the willow furniture painted a dead white, with dainty cretonne cushions is quite out of place, and for the restful outdoor living-room, greens and browns or willow in the natural color, with cretonne of more or less quiet tones, are much more harmonious.



No porch is really furnished without rugs, which nowadays are made especially for outdoor use and in very attractive designs

For those who prefer porch furniture of wood rather than willow, there is a variety, new this season, that is light in weight and most attractive in appearance. It is made of rather narrow strips of wood about an eighth of an inch apart and painted white, and the solid pieces, legs and arms of chairs, and the pedestals of tables are done in either red or green. Complete sets of outdoor furniture are made in this style, and also of wicker and wood combined. The latter is light and substantial and can be done in any color to suit the individual taste.

Whether the furnishings are of wood or willow, a serviceable addition to the porch outfit is a stationary seat built against the wall and fitted with a tufted cushion or with pillows. It may be just a plain bench with curved ends, like the old-fashioned settle, or a more elaborate affair with high back, carefully designed to match the other woodwork of the piazza, and painted to correspond. The general character of the porch and its furnishings should decide the kind of seat to be built. In any event it occupies small space and will be found a decided convenience.

Next to the question of seats in the scheme of outdoor room furnishing comes that of tables. Such a large part of everyday life is spent on the porch that it is quite necessary to have at hand conveniences for both work and play, and at least one table that can be put to various uses should be provided. If it is of good size and fitted with a lower shelf, it will serve as a work table, for books, for afternoon tea, for card playing, and even an occasional out-of-door breakfast or luncheon. For the spacious piazza furnished in willow there are to be had specially designed tables for all of these various uses, including the willow tea-wagon and a new table that is made in two parts. Each of these parts is triangular in shape, making a convenient little table that

(Continued on page 51)



The rustic structure in that it is absolutely informal, is out of place in any but a natural garden. It is, however, a desirable feature removed from the vicinity of the house and in woodsy surroundings

Suitable Garden Shelters

THE ARCHITECTURAL REQUIREMENTS OF THE SUMMER-HOUSE—WHAT SERVICE IT ACCOMPLISHES AND WHAT PLEASURE IT AFFORDS—THE QUESTIONS OF LOCATION AND CONSTRUCTION

BY MILDRED STAPLEY

Photographs by Mary H. Northend

GARDEN-HOUSES, pavilions and pergolas should be studied as carefully as larger and more costly work—studied not only in relation to their environment, but to their material and detail. Excellence in small structures is always worth while, as the Colonial porches, which are often the only embellishments of a severely plain farmhouse, demonstrate. Because our garden architecture on a small property is usually limited to a pergola and a summer-house, these only spots of accentuation in the grounds invite all the more criticism and therefore must never be slighted. Only careful treatment can make them an artistic success as well as a secluded shelter. They must not look like foreign touches—afterthoughts to the original intention—but like a part of the house and garden, designed with them.

Generally speaking, shade-rests and pergolas may be classified in three groups: the severely classic at one extreme, the rustic at the other, and in between, that

domestic style of garden arbor and retreat which grew out of our own Colonial designs; or rather out of the fact that Colonial builders were masters in woodwork and therefore, in copying the stone prototypes of the Old World, evolved an indigenous semi-classic style of great charm and which can be found nowhere else. The two extremes—strictly classic and the rustic—need no description; this in-between style is not so easily recognized. Its chief characteristics are lightness and grace; it avoids all heavy timber and prefers a good deal of lattice work; also it takes all sorts of liberties with classic proportions. In short, it is simply an artistic arrangement of posts and sawed cross-pieces, these often taking the form of a vaulted or arched top. It was always extremely well built, and summer-houses and arbors of this class still stand in good condition in old New England places that have been neglected and run down for years.



A rustic arbor is especially fitting in this place. It commands a view over a field to a lake

sons out of ten it would make enough to pay. It can't all be done at once, of course; the soil must be deepened gradually. But certainly deep plowing, on most soils, is one of the two greatest insurances against the effects of drought. The other, of course, is the dust mulch." And the professor went on to explain in detail the reasons for the result of the experiment.

Mantell had read, of course, that deep plowing was desirable, but this practical illustration drove the thing home in two minutes, in a way that all the books obtainable could never have done.

But the thing that interested him most was an experiment they were trying in the vegetable garden, and on onions and celery, with which extensive trials were being carried out.

"We have been trying one scheme and another for the last several years," said the professor, "to apply water to growing crops in a practical way, and have used, hose, pipes with sprink-

soming of the vines, and given them a pretty good hilling up. This had been some time after the dry weather set in, and they had not grown much since, although they still looked very healthy. Mantell could see, however, that his old field, except where the bugs had injured it most severely, had caught up with the Squire's, and it was still growing, if very slowly. The main difference between the two was that his was still a dark green, while the Squire's was beginning to get a little rusty looking—their growth had ceased.

Most of Mantell's neighbors thought him very foolish, to say the least, to continue cultivation during the dry weather. "What good can it do?" they asked each other, and kindly attributed his waste of effort to the over-zealousness of a beginner. The Squire had been inclined to do the same, but his several discussions with Mantell had given him more respect for the latter's methods of doing things.



There was a mellowness and peacefulness about the on-coming autumn which Mantell had never realized in the city, even on those rare occasions when he got away for a drive in the neighboring country

lers to be moved about, overhead revolving sprinklers, etc., but none was really satisfactory, and all expensive—one or two of the best too expensive for practical use. We are just putting in now a new system of overhead parallel pipes, with nozzles for spraying every few feet. It is a new system, but highly recommended and we have great hopes that it will take away the dread of drought for all intensive crops. I shall be glad to show it to you in operation, if you can come down a little later, and anyway will let you know how it works."

Mantell felt well repaid for the time and money spent for his trip, and went home with a firmer determination than ever to do his utmost to win out against the parching sun.

Shortly after this, on one of his visits to the Squire's, he strolled out with the latter to look at the potato patch. The Squire, true to old customs, had stopped cultivation with the blos-

When, the next day, in response to Mantell's invitation, the Squire went over to his place, and took a look around with him, he, too, noted that the dry weather seemed to be affecting Mantell's crops less than most of those in the neighborhood. There was hardly room for the horse and cultivator to get between the rows of potatoes, but Robert and Prince were busy in their midst stirring the dust dry surface of the soil. The field of corn that had been put in late especially commanded the Squire's attention.

"I don't understand *that*," he said. "Put in late, poor soil, no fertilizer—"

"Oh, yes, it was fertilized," broke in Mantell. "After it was planted we put on several hundred pounds of fertilizer."

"Well, that's a new one on me," admitted the Squire. "It seems to be a good plan."

(Continued on page 61)



The rustic structure in that it is absolutely informal, is out of place in any but a natural garden. It is, however, a desirable feature removed from the vicinity of the house and in woody surroundings

Suitable Garden Shelters

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domestic style of garden arbor and retreat which grew out of our own Colonial designs; or rather out of the fact that Colonial builders were masters in woodwork and therefore, in copying the stone prototypes of the Old World, evolved an indigenous semi-classic style of great charm and which can be found nowhere else. The two extremes—strictly classic and the rustic—need no description; this in-between style is not so easily recognized. Its chief characteristics are lightness and grace; it avoids all heavy timber and prefers a good deal of lattice work; also it takes all sorts of liberties with classic proportions. In short, it is simply an artistic arrangement of posts and sawed cross-pieces, these often taking the form of a vaulted or arched top. It was always extremely well built, and summer-houses and arbors of this class still stand in good condition in old New England places that have been neglected and run down for years.



A rustic arbor is especially fitting in this place. It commands a view over a field to a lake



Rocks are often a good foundation for the summer-house

Which of these three types to choose depends largely on the style of the house, the extent of the grounds and the way they are laid out. Where there is a formal garden scheme, the summer-house, or pergola should be treated as part of the house (assuming this to be in good taste) and no one is as likely to maintain the proper sympathy between them as the architect who designed the main building. This most likely will be Colonial or Italian, for the predominant classic feeling of these styles calls for a formal garden; and the garden-house would most likely take the form of a little *tempietto*. This is the structure which the Italians of the Renaissance felt to be an indispensable garden adornment; and the supreme skill with which they used it may be appreciated by anyone who has the good fortune to visit the Borghese and Frascati villas. In detail an Italian *tempietto* is exquisite for it was never meant to be vine-covered, but to stand bare against heavy foliage and thus invite close inspection of its delicate finish. Wood is well adapted to interpret these marble originals as is proven by many a fine old wooden pavilion in Colonial gardens both North and South; but in design it must be as perfect as a skilled architect can make it. It is not a matter to be handed over to the village carpenter—he is not apt to be the artist in wood that old Samuel MacIntyre was, who beautified his native town of Salem with such exquisite gates and gate-posts. The proportions of the wooden classic should be even more attenuated than in marble and never inclined to the sturdy or “stumpy.” That is the glory of our American Colonial over the English Georgian from which it is derived—that it is in wood and frankly asserts itself as wood; while the English work is in wood and

tries to look like stone. “Learn to express your material” is a motto that the sincere builder always keeps in mind.

In seeking for a model for a classic garden-house turn to the old work and not to one that you may have admired in a neighbor's place. If his is good all its merits and more, too, will be found in something designed ages ago. But do not, in your striving to be classic, carry a pavilion or *tempietto* to such a degree of formality as to rob it of all feeling of comfort or shelter. It must always be inviting. Of slender proportions, roofed with a little dome or pedimented ridges (which might be shingled, as shingles closely resemble slates) and floored with tiles or wood, it can look properly formal and yet familiar—the latter element depending largely on where the shelter is placed—at the end of a path with formal hedges, at the end of a colonnade or pergola, as the central point of a very symmetrical planting, or as a *belvedere* overlooking the water—all spots to which something leads and from which there is something to look out upon.

In the Italian originals the furniture was the beautifully designed stone bench and table which have become known here as “Pompeian;” and as these are admirably reproduced in concrete, our modern *tempietto* may repeat much of the flavor of the old. But one must remember that it is an expensive adjunct to his grounds and must not undertake it unless he is prepared to spend a sufficient sum to do it well.

With a rustic arbor or pavilion no such outlay is needed; but it is not advisable to resort to these merely because they are comparatively inexpensive, without duly considering whether they are congruous with the house and garden. The garden should be entirely informal and old-fashioned, the



The isolated retreat is often one of the most attractive garden features



There is nothing architectural about this, but it has regularity, and precedent declares it suitable for most American country houses



Combining a garden-house and a pergola and at the same time shutting out an unpleasant view

surrounding country should be rocky or wooded; and the house, unless of the bungalow order, should never be too close. In its proper setting the rustic summer-house can be decidedly picturesque.

Here the architect's services are not necessary. Rustic summer-houses of excellent design are manufactured by several reliable companies, or any person of taste can design one (if only he will remember to keep it *simple*) and have a carpenter put it up or even do the entire thing himself. The cedar posts should be gathered in the autumn when the sap is going down, otherwise the bark is sure to peel. Plenty of insects will be found lodged under the bark, so the posts should be carefully sprayed with some transparent insecticide. Creosote and kerosene are both highly efficacious, but are too inflammable to be recommended, especially where logs are to remain stored in the cellar all winter. In designs these cedar retreats are usually square, hexagonal, or octagonal, with the roof pitching upwards from the corners, its rafters terminating in a king post which may project down below or up above. If above, a bird roost may be built around it and add to the interest. The design decided on, and the site selected (preferably in the roughest part of the grounds), the first move to make is to clear the ground, remove all roots, and throw in stones to prevent further growth. Next comes the question of foundations, to which great care must be given, for no matter how crude the intended structure it must not look out of plumb. Either the corners may be supported by sturdy cedar posts set at least four feet in the ground; or if built on a rocky ledge the supports for the sill can be well selected flat stones that will not slide under the weight of the whole; in case the rock is a slanting one a few iron anch-



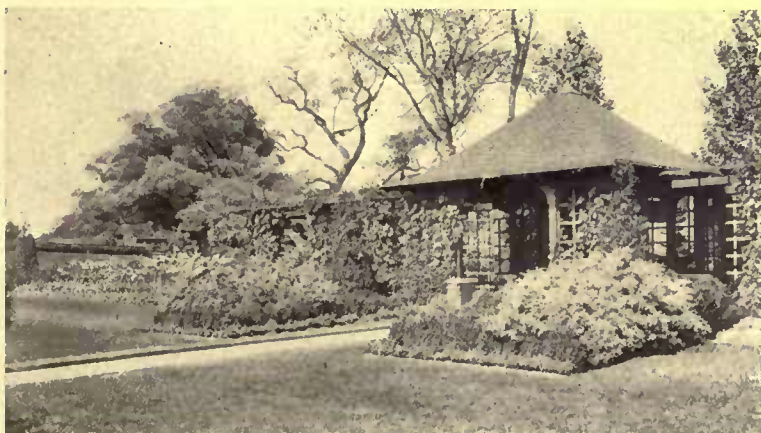
The *tempietto* may be properly built of wood. It adds to the formal garden



Do not use shingles for rustic work; bark is better



Colonial workers made an inviting and cosy garden shelter of a brick paved latticed arbor thick with vines



When the vines grew on this house it appeared much more attractive than in its bare state shown opposite

ors should be driven into it. Unless the sill is made perfectly level no end of difficulties will be encountered, and one of the surest ways of having it so is to use dimension timber, which will surely give a true bearing for the floor boards. In constructing the rustic pavilion, ordinary methods of framing are not followed. Instead all intersecting pieces must be carefully coped with each other; that is, whatever irregularities exist in the surface of a vertical piece must be cut correspondingly in the end of the horizontal piece abutting it and the whole toe-nailed together (boring first for the holes to avoid splitting).

As a rustic pavilion is a very distinctive feature, quite in a class by itself, it is advisable to use but one material throughout —bark-covered wood; the

only exception might be a board floor, though even here pine-needles or rushes are more in character. Stone or concrete for the floor would be unsympathetic and suggest the more formal styles. Equally out of place would be a ceiling of matched boarding; instead, the roof supports should show and the roof itself should be —not shingles, for their cut surface does not harmonize with the rest of the work—but cedar, bark slabs, or thatch. To roof with cedar, round sticks are cut in between the corner rafters and set at right angles to the sides. Such a roof is not watertight, although it may be rendered nearly so by filling up the interstices with moss and clay. However, absolute waterproofness is hardly a necessity. Bark slabs are more impermeable, and thatch absolutely so. As this last is in addition eminently picturesque, and as the summer-house is one of the few buildings which permit of its practical use in America, it is to be regretted that it is not more often seen. But this applies to real thatch, not simulated shingle

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THE GARDEN FOR THE VACATION HOME—WHAT MAY BE DONE TOWARD BEAUTIFYING THE GROUNDS BY PLANTING, EVEN WITH A LATE START—THE BEST FLOWERS TO USE

BY F. F. ROCKWELL

WHAT is more bare than the summer home of the itinerant vacation renter? Renting a house from season to season, frequently not the same one, he does not feel that he can afford to improve it, and the owner doesn't, so never a flower shows its face to make the grounds look more cheery and homelike, and not a shrub breaks the bleak monotony of bare walls and a bare "lot," or screens the obtrusive out-buildings. Even summer homes that are owned by their occupants and "boarded up" during the winter, frequently are as neglected in this respect as those poor unfortunate houses whose owners never live in them, and which are subjected season after season to the thoughtful care of persons who never expect to see them again.

"It's too late to do anything by the time I get to the country," says such an owner. "And besides, most of the flowers come too early or too late for us; what is there worth while during the blistering months of July and August?" And so, year after year, he sits inside the house, because the unshaded porch is too hot for use, and finds nothing to occupy his spare moments nearer than the golf course or the fish pond, when more interesting and more satisfaction-yielding tasks remain undiscovered in his doorway.

To the man in either class, covered by my indictment, let me say that his excuses do not hold water—if he's too lazy to bother with such things, let him frankly confess it!—for the materials are to be had without trouble. Or should my word of advice be whispered to the lady of the house? Often she is the one who has to start anything connected with the house; perhaps it's quite to be expected that she should be more vitally interested, for frequently she has to sit on the boiling porch.

The vacation family usually strikes town, or more correctly,

out-of-town a mile or two, along in June—at least in time to celebrate the glorious Fourth in the country.

Now April and May are the popular garden months, but June, even the last part of it, is not too late to get good results, many of them immediate. The fact must be realized, however, that whatever is going to be done must be done at once, and hence the importance of planning pretty definitely what you are going to do, and then getting it done just as soon as possible after you get to the summer home. As a matter of fact, it is possible more frequently than not, to get part of it done ahead by arranging

with some reliable farmer, or the owner, or the local florist, to have the beds and gardens manured, and spaded or plowed in advance. This is a perfectly practical scheme and should be taken advantage of more frequently than it is.

In the first place just a word about the preparation of the soil, whether it is a large garden or a small hole for a single vine or plant. In making a late start it is particularly necessary to make the feeding ground of the plant as mellow and rich as possible, so that growth may be immediate and rapid. At this season of the year it is often difficult to procure manure that is thoroughly fined and old, as the pits are usually cleaned out in the spring; but be careful to get the best you can, and then use nitrate of soda and cottonseed meal with it, to yield quick results. The

soda is very strong and should be used with care, sprinkling just a little about the roots of the plant, and making it into the soil, preferably just before a rain. The cottonseed meal should be mixed with the soil before planting, as there is no danger of "burning" the roots with it. It is very rich in nitrogen and will help in getting a quick start.

If you cannot arrange to have the beds made ready in advance, get someone on the job the day you arrive, for at this season of



Even though planted late, gladioli will produce quantities of such bloom during the summer and early fall

the year every day's delay usually means that the soil is getting that much more thoroughly dried out, and also a perceptible shortening of the limited time which you have to enjoy gardening in.

The material available for use in the late garden may be considered in five groups, each especially suited for a different purpose. They are: "bedding" plants that will produce immediate effects or flower through mid-summer; plants that will flower in the late summer or autumn; seeds that can be sown late, and that will produce quick results; plants good for tropical or decorative effects; and the quick growing annual vines.

Of the first group, none is better than the good old standard geranium. But let us get out of the habit of thinking that while we have extra choice varieties of some flowers, there is nothing to the selection of our geraniums except to get them in one or more of two or three common colors. As much care should be exercised in selecting geraniums as in picking out prize strains of any other flowers, for they have been brought up to a high standard of perfection with many beautiful and distinct sorts. S. A. Nutt, the popular dark scarlet; Mme. Recamier, pure white; Beau de Poitevine, salmon pink; Alphonse Ricard, bright vermilion; Marquise de Castellane, a beautiful soft red and especially good for cutting, are among the best of the standard double sorts, and well worth any extra effort which may be required to secure them.

Tuberous begonias also are very near the head of the list of flowers good for vacation gardens, and should be at the height of their glory during the vacation months. They may be had started in four-inch pots, and blooming freely by the time

bloomer besides.

For brilliant masses of color, such as many vacation places need, salvias are ideal summer flowering plants, which make a show at once. The red varieties, especially the new dwarf types, are the most useful, but the several other colors are all good.



Cannas, with their luxuriant foliage, are especially desirable for mass effects in borders



The various quick growing vines lessen the bare appearance of a porch



Tuberous begonias should be at their best during the vacation months

they are set out. A few plants, if not a whole bed, of heliotrope will certainly be wanted, both for its beauty and its fragrance. Another splendid flower, too seldom seen, is the *antirrhinum*, or snapdragon, with its long, graceful spikes of flowers of various intense colors and attractive combinations. It is especially valuable for cutting, and a very profuse

and balsams are not so readily procured at this season of the year, but make good plants, the former for a blaze of color in any exposed position, the latter along the veranda, or some walk, where their beauty may be observed at short range.

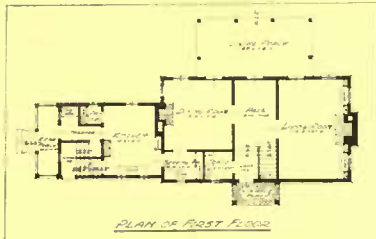
With the above, of course, may be used to great advantage the old-fashioned but ever attractive edging plants, *alyssum*, *ageratum*, *Mme. Salleroi* geranium.

Although the majority of vacationists go back to the city early in the autumn, just, in fact, as the best of the season is reaching the height of its glory, there are some cases where late-blooming flowers are desired. A number of those mentioned above will continue to bloom until frost, but in addition to these, and especially valuable for the late garden, are several more. Among these none is more graceful or beautiful than that green of the autumn garden cosmos. It is a plant, too, of which you are likely to find a few, on your belated call at the florist's. Putting them in late, it will be necessary to have good sized plants. Asters set out late will also be in their glory in the latter part

(Continued on page 54)



The inspiration of this house came from the Colonial farmhouses, and it preserves all the utility in space and light that was theirs, while avoiding their uninviting coldness

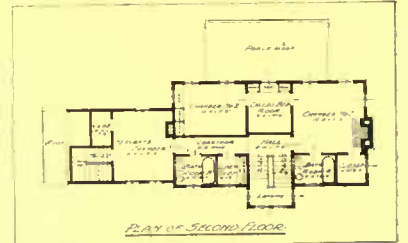


The ell on both floors is devoted to the service department

A HOUSE AT GLENCOE ILLINOIS

Walter Forbes Miller

architect



Although there are but three chambers, two bathrooms are provided



The end of the house faces the street, and both its entrance side and the living-room side are made equally presentable and attractive



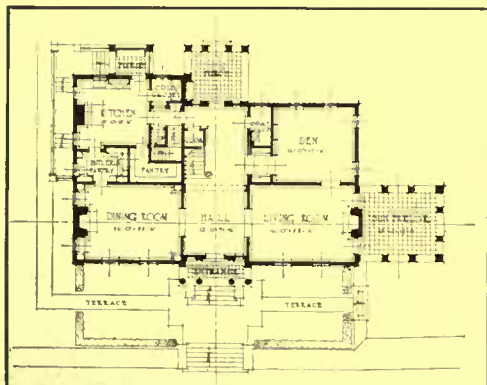
Restraint and simplicity characterize the living-room; the only semblance of adornment is the built-in book shelves



Rough plaster in a neutral tone is the dining-room finish. What woodwork there is, is in white enamel



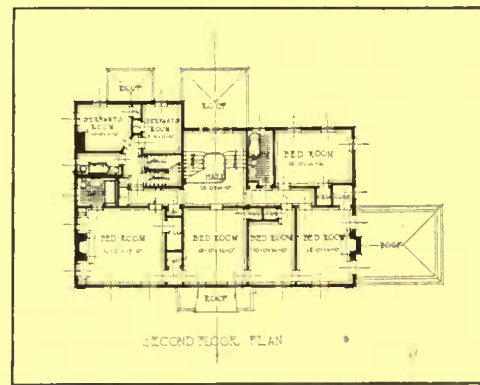
Mr. Blake's house is of that later Colonial inspiration that appears in some of the old Cambridge, Massachusetts, houses



On the ground floor the hall runs completely through the building, with an attractive entrance at either end



The entrance hall is effectively separated from the stairway by a flat arch



Economical arrangement of space on the second floor permits more bedrooms than is usual

THE HOME OF MR. H. W. BLAKE, ENGLEWOOD, N. J. *Davis, McGrath & Kiessling, architects*



The panelled and carved over-mantel is particularly appropriate with the high ceiling of the dining-room



The French doors in the living-room, symmetrically placed at either side of the mantel, have a decidedly attractive effect



Inside the House

Timely Suggestions and
Answers to Correspondents



The editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope

Practical Letter Boxes

EQUALLY useful in the country as a receptacle for outgoing letters, and in town for the mail left by the postman, are the letter boxes that are designed with the idea of being ornamental as well as substantial and secure. Even those made of heavy tin and costing but a trifle are decidedly attractive in appearance. The plainer of the two boxes illustrated is of this variety, and is dark green, almost black in color, with the lettering in dull gold, and the ornamental figures in a pale green that is just the color of verdeggris. Another box in the same shape is done in brown, and by way of decoration has a small panel on the front showing a landscape in delicate colorings.

The more elaborate boxes come in heavy copper and also in an oxidized silver effect and are decidedly ornamental without being too conspicuous in appearance. While intended primarily for outdoor use, to be put up in a convenient place on the piazza, somewhere near the front door,

they are quite suitable for the inside of the house as well.

They are fitted with strong locks and substantial keys that work without any difficulty, and the holes for the screws by which they are attached to the wall are in the back, inside the box, so that the screws cannot be removed without using the lock and key.

A Vine Training Device

ONE of the best labor-saving arrangements is a device to fasten the strings or wire netting for the vines of the porch. A strip of wood one inch square and about six feet long with a strong screw eye at each end, is all that is needed. Drive two nails into the upper part of the porch, the same distance apart as the screw eyes. Then after tying the strings onto the strip, lift it up and hook the screw eyes over the nails. Fasten the lower ends of the strings into the ground with small pegs, and train the vines on them. In case the house is to be painted, the vines can be lowered without harming them.

fit neatly into a corner; but when a larger table is desired, fills the want with merely a setting together—it might be called three tables in one.

Placing Building Paper Correctly

THE usual method of placing building paper is to stop it at the corners of the house, but a man told me he had his builder "lap" it over at the ends and so prevent much cold air from entering. The result, a much warmer home with scarcely any additional cost.

Color Schemes for the Porch Room

MANY houses have, just off of the porch, a small room which during the summer months may most conveniently be turned into a "porch room." Indeed, during the winter the porch room will be just as enjoyable, for if it is well heated, it will be as near to the delight of sitting out-of-doors as it is possible to get in a

Luxurious Willow and Wicker Furniture

WILLOW, wicker and kindred chairs and couches are made most luxurious with box springs. A willow couch, which under ordinary conditions would scarcely be selected as a comfortable bed, may, with the box springs, serve as a most downy impromptu haven of rest for the unexpected guest. As a piazza sleeping couch, it is most desirable; at any time the springs may be lifted out and easily carried to a place of safety, while the willow frame remains unhurt, no matter how severe the rainstorm. The same plan may be pursued with chairs, the box springs being removed with the ease of a cushion.

Two Tables in One

IF purchasing a square instead of a round willow table, consider the twin corner tables which when set together form a table a yard square. Each table is complete in itself, a triangle which will



A more decorative effect may be attained without sacrificing utility



One of the most satisfactory boxes is of this simple style

cold climate in the winter time. Where this small room opens off of the porch with French doors, it is really a part of the piazza, a sheltered spot on a rainy day, and a retreat from the sun on a very warm day. The decorations for this room may carry out the idea of the vine-clad piazza in either wall paper or hangings. A great many wall papers are made that may be very successfully used in this capacity. One paper has a white background, against which are poles hung with ivy in green, a tracery of ivy leaves in gray shadow showing faintly against the background. This paper is a soft, rich green, and costs 90 cents a roll. Where this paper which has a very decided pattern is used the hangings should be of plain goods. One of the fabrics that does not fade will carry out the color scheme nicely and will be practicable, for as the name implies, the colors of these fabrics are as nearly sunproof as continued experiment and effort can make them. A very effective material in an excellent green comes at \$2 a yard. The goods is fifty inches wide, and cuts to excellent advantage, one

a trailing design of ivy leaves in a beautiful shade of green with brown shadows, and the stems and berries are brown, harmonizing with the tan walls. The background of the goods is white. Simple white curtains of net, scrim, or muslin may be used at the windows. The furniture may be of willow stained green, some of the cushions being upholstered in the cretonne which is used for the hangings (it is 32 inches wide, and costs \$1.25 a yard), with the cushion of a settle or easy chair upholstered in green cotton velvet of a harmonizing shade, to give a note of special accent to the room. Instead of willow furniture, Canton rattan furniture may be used very appropriately in the porch room. The rattan is a soft gray-tan shade, which will harmonize admirably with the Hofi cloth walls, and the cushions may be made of the cretonne and cotton velvet the same as suggested for the willow furniture. The willow furniture stained a soft shade of green will bring a little more green into the room, while the Canton furniture will make the scheme more tan and green.



This combination, where green and brown tones predominate in the cretonne, Hofi cloth and velvet, is desirable for the porch room

width cut in half being sufficient for the side curtains of a window unless unusually wide hangings are desired. This unfadeable goods launders well, a very great advantage in the summer time, when the windows are open and curtains and draperies catching a more than ordinary amount of dust and dirt.

The illustration shows another color scheme for the porch room. Hofi cloth, which costs 45 cents a yard and is a yard wide, is used on the walls. This forms a most satisfactory wall covering. It makes an excellent background for any pictures one may care to introduce into this pleasant room, is in itself very decorative, a little like a light matting in effect, and being somewhat like a fabric, it has the advantage of not showing holes made by tacks or nails. Hofi cloth comes in a number of different weaves and colors, the color used in this scheme being a gray tan, and the weave a striped effect. The cretonne used for the overhangings and some of the chair cushions is imported goods of a very excellent quality. It has

Jute rugs, which are remarkably low in price (\$2.25 for a 3 x 6 rug), may be used in this room. A rug in very excellent colorings comes in tans and greens.

A Handy Folding Table

FOR some reason or other the small folding table like the one shown in the illustrations is not an article of furniture that can be bought in the average shop, but is generally the product of the cabinet maker, or of some enterprising carpenter who turns it out in a rather crude form.

A more serviceable thing would be hard to find, as it can be put to so many different uses. The one in the illustration, which is made of cherry, is twenty-two inches high with a circular top twenty inches in diameter, and is polished and finished so thoroughly that it would fit in quite well with the furnishings of the average living-room or library. It is so light in weight, and when folded occupies so little space that it really does not have to



When not in use the folding table occupies little space

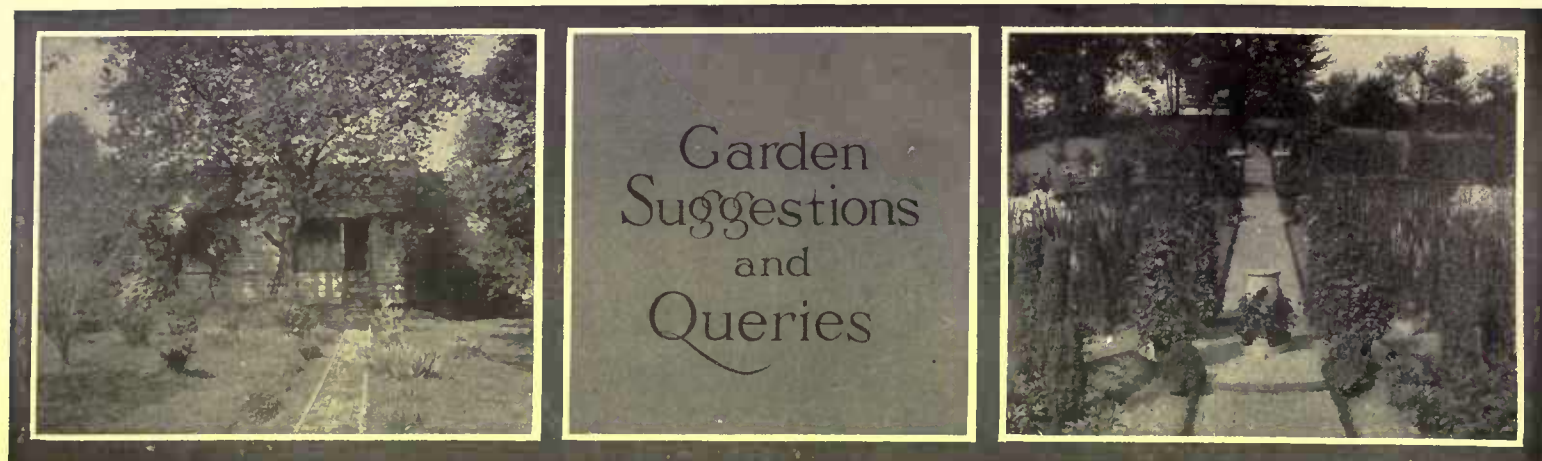
be considered as an extra piece of furniture, and yet it is used for afternoon tea, for the after dinner coffee tray, for playing solitaire, for holding books or papers, or a work-basket, or any of the numberless things for which a small stand of some sort is required temporarily.

It is very simple in construction and when carefully made there is nothing to get out of order, so that it is quite worth while to get one of the best kind of wood, and so have it ornamental and lasting as well as practical.

The same style table, made of white pine and stained in suitable color is equally useful as part of the furnishing of the piazza or outdoor living-room.



The circular top of this style is twenty inches across



Conducted by
F. F. ROCKWELL

The Editor will be glad to answer subscribers' queries pertaining to individual problems connected with the garden and grounds. When a direct personal reply is desired please enclose a self-addressed stamped envelope

June

JUNE is the month that proves gardeners, and weeds the make-believes out from the real ones. Anyone can get the planting spirit in April and May—indeed who can help getting it? But whoever can stick right to the job through the blistering dusty days of late June, and show a clean record and clean rows July 1st, is entitled to a certificate of membership in the gardeners' union.

One reason so many of those with good intentions back-slide during the summer is because the work grows less interesting to the amateur. Nothing to do but weed and hoe and rake, in place of all the excitement of watching seeds come up, and setting out attractive looking rows of plants. So it seems, sometimes, but of course the good gardener takes a delight in keeping his rows free not only of weeds, but of crusty surfaces, and he knows that the hot June days are making the various things jump toward maturity, if he will only do his share in giving them the right conditions under which to grow.

Just as sowing and planting are the order of the day for the early months, *cultivation* is the order of the day for June; and just as, time after time, the essential garden operations have to be gone through with, so we have to urge their importance upon our garden readers. It is not half so interesting as to read about beautiful new flowers, or novel effects to be had by this or that method of arrangement, but *more important*. All this routine work is the foundation upon which successful gardens must be built.

Cultivate Frequently

Let us repeat, then, that frequent cultivation is the keynote of success. And it is as essential to the flower garden as to the vegetable garden—a fact quite frequently overlooked. How many times one sees a garden of flowers where the surface of the soil is not disturbed from one month's end to another, and where, simply because the weeds cannot get big enough to threaten the life of the plants, a solid crust is allowed to form, making an open channel of escape for all the moisture which nature has stored up in the soil during the spring

rains. Such careless gardening cannot bring the best results, and a half hour invested every other week or so in working among the flowers, going over the beds, cutting off any broken branches, or top-heavy growth, will bring very greatly enhanced results. A little commercial fertilizer worked into the soil, or a mulching of fine manure, applied at the same time, will also prove of great benefit.

In the vegetable garden the task is not such a simple one. On the other hand, because of the straight, regular rows, and the comparatively large amounts of each thing planted, more labor-saving methods can be employed.

The first thing to do, if you do not already possess one, is to get a wheel hoe. Don't attempt to get along without it. Even if your garden is small—one that you can look out for with antiquated implements—you will look out for it twice as efficiently with an up-to-date tool, doing several times the work of the old hand hoe, and doing it with half the energy employed.

The two attachments which we use most frequently are the flat hoe blades, which

can be adjusted to cut as near to the row as desirable, and the perpendicular cultivating teeth. The former are so set that they will skim along just below the surface—an inch is enough—and they cut off everything in their path. The continued use of the hoes alone, however, tends to leave the ground in a packed condition which is undesirable, so the cultivating teeth are put on for every second or third working. The best type is so constructed that the teeth can be set to cut deeper in the middle of the row, where they will not cut off roots. This keeps the surface mulch in condition, and also keeps the soil so loosened up that air and water can permeate it readily. The double wheel is the best form to get, but with either style one can go through rows of all sowed crops, such as beets, carrots, onions, and even corn, peppers, cabbages, etc.

The Late Garden Crops

There are a few belated crops to go into the ground in June—and just because they can be left until late they are often left until *too* late, and either fail to mature altogether, or come along so poorly that they are practically a failure. So be just as particular to get your last planting done on time as you were the first.

There are several things of which you ought to make a final sowing or planting for late crops to be started for fall and winter use—beet, carrot, cabbage and cauliflower (seed about June 1, to transplant later); cucumbers and tomatoes.

Then there are the succession crops to be taken care of, for real garden efficiency—beans, peas, lettuce, spinach, kohlrabi, lettuce and corn.

The latest regular crops to be put in the garden will be melons and winter squash, pepper and eggplant and celery. June 1 to 15 will be about right for these, but aim to have the plants as strong and fully developed as possible before setting out.

In starting the late cabbage and cauliflower seed, sow in rows six inches or so apart, in a finely prepared seed bed, and after the plants get several inches high cut them back once or twice, quite severely, to make stocky little plants. Thin



Melons are among the latest of the regular crops to set out

them out as soon as they are large enough, because plants that are crowding each other for light and air will not make good specimens.

Inducing Rapid Growth

In addition to the cultivation given, as suggested above, almost all of the garden crops will be greatly benefited by a light dressing of nitrate of soda, when they are partly grown. Spread it on very thinly—a handful to several hills, or several feet of row—and work it into the soil. Beets, tomatoes, cabbage, lettuce, peppers and eggplants, melons, cucumbers and onions are especially helped by this treatment, in a very perceptible way. Remember that almost all garden crops depend for their quality upon the rapidity with which they have been grown, and so this treatment gives you not only bigger and surer crops, but better ones as well. In fact, in the case of the onions, and other crops taking quite a long time to mature, several light dressings can be used to advantage.

The War with Insects

Another important job in the June garden is to keep potatoes, tomatoes, cabbages and eggplants, and particularly melons and squashes, protected from the ravages of the various insects attacking them. As these pests multiply in hot weather with great rapidity, the beginner is often caught and finds irreparable damage done before he is aware that the enemy has opened up an attack. Crops subject to the ravages of these dreaded intruders should be looked over daily, and at the first sign of the enemy the battle should be fought out to a finish. The garden insects are of two types—those that make their living by eating, and those that live by sucking. For the first, one of the internal poisons, such as Paris green, arsenate of lead, or hellebore will prove effective. For the sucking kinds, use some contact poison such as kerosene emulsion or tobacco dust.

If one will take the precaution to keep on hand a supply of these few things, none of which is expensive, and act immediately when the enemy puts in an appearance, there should be no trouble in keeping the garden clean. A duster or bellows of some kind, and if possible a small compressed air sprayer, should also be kept in readiness for applying them efficiently.

For melons, cucumbers and squashes, which are frequently destroyed altogether by the striped beetles or squash bugs, the easiest and most efficient protection is furnished during the early stages of growth by plain bottomless boxes (made of old soap or cracker boxes, or of boards half an inch thick and eight inches wide) covered with mosquito wire or netting. The box is simply placed over the hill and left until the growing of the plants makes its removal necessary. Even then, however, the vines must be watched carefully.

Some of the most common pests, and the things to use for them, are green plant

lice (aphis), kerosene emulsion, tobacco dust; cabbage worm (green), hellebore, hand picking; tomato-worm, hand picking; striped beetle, covered boxes, tobacco dust, arsenate of lead; potato bug, Paris green, arsenate of lead; squash bug, same remedies as for striped beetle, and hand picking of old large bugs and eggs.

Saving a Tree by Watering

A small tree in the front of my house, which was badly torn by a horse last year, refused to put out its leaves this spring and showed every indication of rapidly dying. The ground about it was very hard, so that water soaked in slowly. I decided that water applied to the roots might produce results, so instead of digging up the ground I bored perhaps a dozen holes about the tree within a radius of ten feet by turning the water on full force and holding the nozzle of the hose close to the ground. At first there was much splashing, but after the top crust was penetrated the hose was easily pushed to the depth of a foot, the steady flow of water loosening the earth and sending it to the top. Into these holes I poured water daily and within two weeks had the satisfaction of seeing my tree fully leafed out and it has since continued to grow and now appears in better condition than ever before. After results began to be apparent all but two holes were filled up with loam and these will be closed later when the safety of the tree is assured.

A Practical Summer Shelter

As summer approaches and the noon-day sun becomes at times uncomfortably warm, the need of some sort of convenient shelter about the lawn or in the garden is apparent to every one. One of the best devices for this purpose is the garden umbrella, for it may be used under circumstances that would not justify the



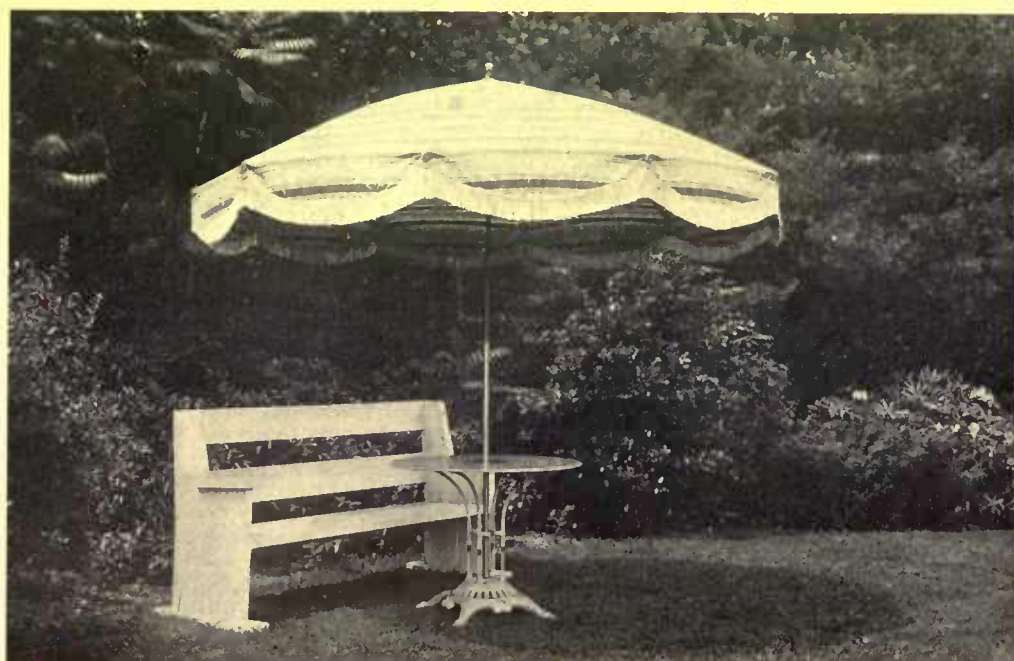
The hose may be used to water deep tree roots

erection of a permanent summer-house or arbor. These umbrellas may be had in a variety of forms, a very satisfactory kind having a small iron table holding a socket into which the umbrella shaft fits. It is especially desirable for use on lawns where other shade is scanty, or beside the tennis court, for example.

Among the Shrubs

There is little to be done at this season in either planting or pruning of shrubs, except the few which have bloomed during the season.

(Continued on page 60)



One form of the garden umbrella is supported in a socket attached to a small iron table, which makes it especially desirable for lawn use



EDITORIAL



THE REMODELED HOUSE

THE words "old homestead" and "old manse" have long been magic talismans to the sentimentally inclined. They have seduced many a man from the comparative comfort of a seat by his apartment house steam radiator and led him to absolute misery in the "Revolutionary mansion ideal for remodeling." Many a man has found the rapid-fire artillery of the steam pipe preferable to the insidious miasma of acrid smoke that bleared his eyes and choked his nostrils as he tried with vain shivers to produce some feeble flame in the cavernous mouth of his remodeled house fireplace. A cellar, alternately a skating pond and a quagmire, dampened his enthusiasm, and ceilings that despite replastering depended still more threateningly than the sword of Damocles, finally knocked it entirely from his mind.

That is enthusiasm's one fault; it creeps in where wisdom would be chary to have the cat walk. The experiences of misapplied enthusiasm are so unfortunate that pessimism of the deepest stamp results. So if you came to the man who had gaily set out to make a home out of an old farmhouse and had gone about it with no experience and little knowledge, and presenting Mr. Hooper's articles, asked "Why not remodel a house?" you would do little more than develop an assassin.

But the rest of the good old-fashioned enthusiasts who indulge their passion in no more harmless fields than collecting china or furniture in a state of trembling senectitude may still be directed to the delights of remodeling. They may reap the pleasures of a home about which there is a garment of romance and whose environs boast grand rows of patriarch trees that no builder of a new house can ever hope for.

The one consideration is that it requires definite understanding of conditions and is as nice an undertaking in some cases as building from the foundations. The Colonial builders were in most cases sincere and painstaking; the state of their handiwork at present proves this. But there were certain tricks that are necessary to be known before we make changes—the turn of flues, the run of beams, and so forth. There are also certain essential precautions to be taken and certain preventive measures due, before we get satisfaction. To this end the series of articles by Mr. Hooper is directed, and for the first time the general proposition of making over the old house is presented and a line of procedure mapped out. It demands more experience than is at the hand of the local carpenter or mason.

Even if one is successful in getting a solid, watertight structure, the results of necessary changes are often unpleasing in that the house is a conglomeration of styles—a modern wing is grafted on, or dormers placed where the conventions of an earlier time forbade them. The changed building must radiate the spirit of the original. Its new ornamentation and detail should not be anachronisms. These things must be planned out beforehand. If they are not, the undertaking fails; if they are, there is permanent satisfaction. If, then, you think of remodeling, banish the thought that a little timber and a little plaster are the only essentials. The proposition is one demanding expert knowledge, but gone about rightly has all the rewards that the imagination of the enthusiast pictures it to have.



KNEE DEEP IN JUNE

WITHIN a comparatively recent period there has been a great discussion about the rearing of children. We are told that many an ambush is laid for them. "What are your child's companions telling him?" "With what whispers does your daughter's chum fill her ears?" Questions

such as these are rhetorically asked of parents; statistics and experiences fill the pages of books, magazines and newspapers, showing what wickedness blocks the pathway of the young. You might have avoided becoming a criminal or an outcast yourself, but, being a parent, you cannot sit by and trust luck. It is much the same as the feeling you have when watching some one close to you lean over a dizzy height. When you did it yourself it caused you no tremor, but with that other one your apprehension made it a grave danger.

But what are you to do about it? The anxious guardianship that questions and spies hardly answers. The thing to do is to create a suitable environment. Education and affectionate regard will, of course, do much, but there is a force for good that lies outside your threshold. It is the decency of nature, the wholesome recreative spirit that works always and everywhere even though parent minds are oblivious of it. It makes no difference how you reason it—with the philosophy of Wordsworth, or simply as an automatic effect of healthy surroundings—the fact remains; the ideals that grow from an early acquaintance and knowledge of plants and flowers, both in the garden and the fields, will fight with you in keeping out the mean and nasty.

Our frontispiece carries this message much better than is granted the poor power of language. When you look at it—those of you who scan the children's faces with anxiety—remember, there lies your ally. If your little ones cannot run knee deep in June, at least give them some of it, be it only an ankle's depth.



SPRING CLEANING

THERE is one shadow that overclouds the joy and brightness of the spring days, and that is the vision of spring house cleaning. Its attendant imps seem to drive away all wonted comfort and make inroads on the very foundations of our domestic happiness. In the days of chaos we grope ill-tempered for this or that object no longer in its accustomed place. There are aching backs and ailing dispositions. To what end? Some say that the spring house cleaning should be done every day of the year, little by little, but were we never so careful cleaners, we must still change winter's dress for that of summer. We believe that the spring upheaval will always be an institution and would cling to it with all its discomforts.

It's much the same heroic treatment as the sulphur and treacle that some of us have a vivid recollection of as the one horror of springtime. If there is doubt of its beneficial effect on our bodies, it certainly was a stimulation to the mind and a Spartan discipline. So with our house cleaning. Even if we are so diligent that there is no speck of dust found in these annual upheavals, still there is a mental cleaning that they accomplish. It keeps us out of the rut of indifference.

They say that time can gradually inure us to any abominations. Little by little, if there is no change, we become entirely oblivious of our surroundings, whether good or bad. We sink into a state of dull perception and just exist. But a change makes all the difference in the world—and behind the spring upheaval there are generally changes. We realize the shoddy, worn appearance of this chair, and the tawdry look of that picture. We are stimulated to make improvements, or at least to aim toward them. Without some such mental sulphur then, we do not appreciate what is good about us and become unmindful of the bad, so let us cling to spring house cleaning which produces the spirit of criticism, without which there is no advancement, only retrogression.

"Daffodils, that come before the Swallow dares"

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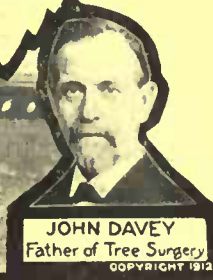
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A Maine Garden

(Continued from page 26)

head awaiting their turn.

Other nooks there are on this hillside—sheltered ones under a stone wall, where grow hollyhocks and Canterbury bells, and ever the wonderful blue of Penobscot Bay with the violet haze of the distant hills to complete the rare enchantment of the spot.

If, however, to you this is still a picture conjured in the brain of a dreamer and enthusiast, come with me along the garden path and through the low-growing juniper to the rustic gate into "The woods that bring the sunset near." Under the well-nigh impenetrable shadows of the spruce avenue with ever a golden portal to lure us on, we come out at last into the full glory of the sinking sun. Earth and sky and sea have transformed, as by magic, this humdrum old world of ours, into a glorious panorama of such wondrous beauty as holds us spellbound.

If yet you are loath to grant all the claims of the enthusiast, I must perforce admit that we have come to the parting of the ways: you, to retrace your steps to your own prosaic, work-a-day world; I, also to a prosaic world, but with thankfulness in my heart for the uplift that can take me away from the weeding and grubbing—or, rather, that comes because of it.



Suitable Garden Shelters

(Continued from page 37)

thatch, which is an exaggeration already falling into disfavor.

Cedar is not the only wood that may be used for rustic work. Effective results are obtained with silver birch and white maple; but these rarer trees are so ornamental in themselves that one is loath to cut them down for building material.

To furnish a rustic summer house is no great problem, for a built-in bench and central table answer all requirements.

Perhaps for the average small American country residence, the semi-classic summer-house or bower is the style most often resorted to when the question of garden architecture comes up—the style we have described as "simply an artistic arrangement of wooden posts and sawed crosspieces." This for the very obvious reason that it adapts itself to almost any unpretentious house and garden, besides being in itself always in good taste. As the old builders used it, arbor and pavilion generally accompanied each other, for these early men had a keen appreciation of architectural layout in their schemes. They made their arbor terminate in a little house and to obtain seclusion in the latter they made use of delicate lattice work; for, unlike the formal classic shelter this one is meant to be vine-covered. None knew better than our forefathers what were the best vines to train up such

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a structure—vines that would leave a large proportion of the lattice work visible and whose huge and very symmetrical leaves would supply whatever conventionality was lacking in the woodwork. The moon vine, therefore, or the gourd, or the masses of clematis or wistaria would be appropriate, while the more tangled sweet briar or honeysuckle would lend themselves better to a rustic structure. Flagstones or herring bone brick floors are demanded for our old-fashioned shelters and are specially effective if the arbor is bordered by hydrangeas or some other formal plant in tubs. Lately there has been a tendency to supplant this old type of floor by crushed stone, but the innovation detracts from rather than adds to the character of the work.

Even where the garden architecture is to be handed over to an architect, a client with an intelligent understanding of the matter is a more satisfactory person to deal with than one who has strong leanings to certain freakish forms, simply because he "knows nothing about art, but he knows what he likes." It is to be borne in mind that the little summer-house may make or mar the whole garden.



The Formal Garden

(Continued from page 21)

total of 50 by 100—a study of the location of entrances, walks and house entrances should be made, on paper, drawn to scale. This puts the entire place at once under the eye, and it becomes the framework and foundation of a picture or a design, presenting what designers would call the construction lines. Certain spots or points in it, more prominent than others, will furnish motifs and suggest this or that treatment, according to the circumstances, and possibly some of the lines already established will prove to be so out of keeping with the quality of good design that a new arrangement will have to be made. A walk may have to be changed or porch steps will require shifting; bear in mind, however, that absolute symmetry is not the essential thing, but that proper balance is, along with occasional sharp emphasis.

Some of the old dooryards of New England towns offer suggestions that are invaluable to the owner of the small place, for many of these old houses stood within ten feet of the sidewalk—even closer sometimes—yet they had boxwood beds and bordered walks behind their prim picket fences, and an air of immaculate serenity rests over them to this day.

It is not possible of course to give very definite directions for designing a formal treatment either great or small. The study of good designs and the gradual development of a feeling for design through such study, is better than pages of written rules could possibly be. Cul-

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tivate simplicity and keep to a general style conforming to the style of the dwelling, making quite sure that the latter is a little more splendid than the garden, rather than a little less so. Proportion the garden to the house, and locate it according to the house plan, and to the requirements of the situation generally. Grounds should always be closed in from the highway, whatever their size, and a formal garden similar to any of those illustrated should never be exposed on the public side of the house. Small dooryards are of necessity thus exposed, but the limitation of their area does away with the sense which always lurks around a great garden, ostentatiously placed, of a public place or hotel approach.

The cost may be little or limitless, depending, of course, upon the amount of constructive work required. The garden boasting fountains, basins and other architectural features obviously is not the poor man's garden, but such a scheme as the picture at the top of page 20 shows, may be carried out very inexpensively. The round basin at the center, with the urn, furnishes the one item of considerable cost, which might be reduced 75 per cent. by the substitution of a sun-dial. The arched seat at the end, delightful in form and in the contrast of white against green which it presents—a clear, high, vivid note in the composition—represents only a small outlay for lumber and perhaps two or three days' labor. And the flowers cost no more than the same number, employed in any other fashion, of course.

Where perennials are to be used, such a design is better than a more elaborate one. Annuals suit better the smaller beds in the third picture on the same page, and the carrying out in such a design of a one-color scheme in each bed, brings a result beautifully suggestive of mosaic or enamel. Definite lines should always surround a formal garden proper, and back of its architectural balustrades or its inclosing hedge the ideal demands shrubbery to extend to a still higher growth of trees, unless its location is down a hillside. The principle is to set it apart, to make it distinctive, to show a sharp contrast between it and its surroundings; hence a broad expanse of lawn, sweeping away on every side, is not as pleasing—unless it falls off abruptly at the garden's very boundaries, and shows no trees nor shrubs until remote distance is reached—as a forest planting into which the gem represented by the garden seems to have been pressed much as a seal is pressed into wax.

I have said elsewhere something about the need for carrying out into the garden the lines of the house, or certain suggestions of these lines. The two must hold together; moreover, the garden must, in a sense, be a continuation of the house, therefore it must center on the house, or on some architectural feature of the house, and never should be set down here, there or anywhere simply because here, there or anywhere affords space for it. In both the garden plans shown the axis of the dwell-

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ing is the garden's axis also; and in the gardens illustrated the same structural rule is observed. This is advisable wherever it is possible. Sometimes it is not possible, however; then a porch, or the span of a wing, or a terrace may be chosen to work out from. Much, of course, always depends upon the house plan as well as the style of the building. But whatever the plan, and whatever the style, a well ordered formality developed from it and with it is the perfecting touch which distinguishes the home of fine perception and discrimination.



Making the Most of the Porch

(Continued from page 32)

fits into a corner, but when placed together they form a square table of good size.

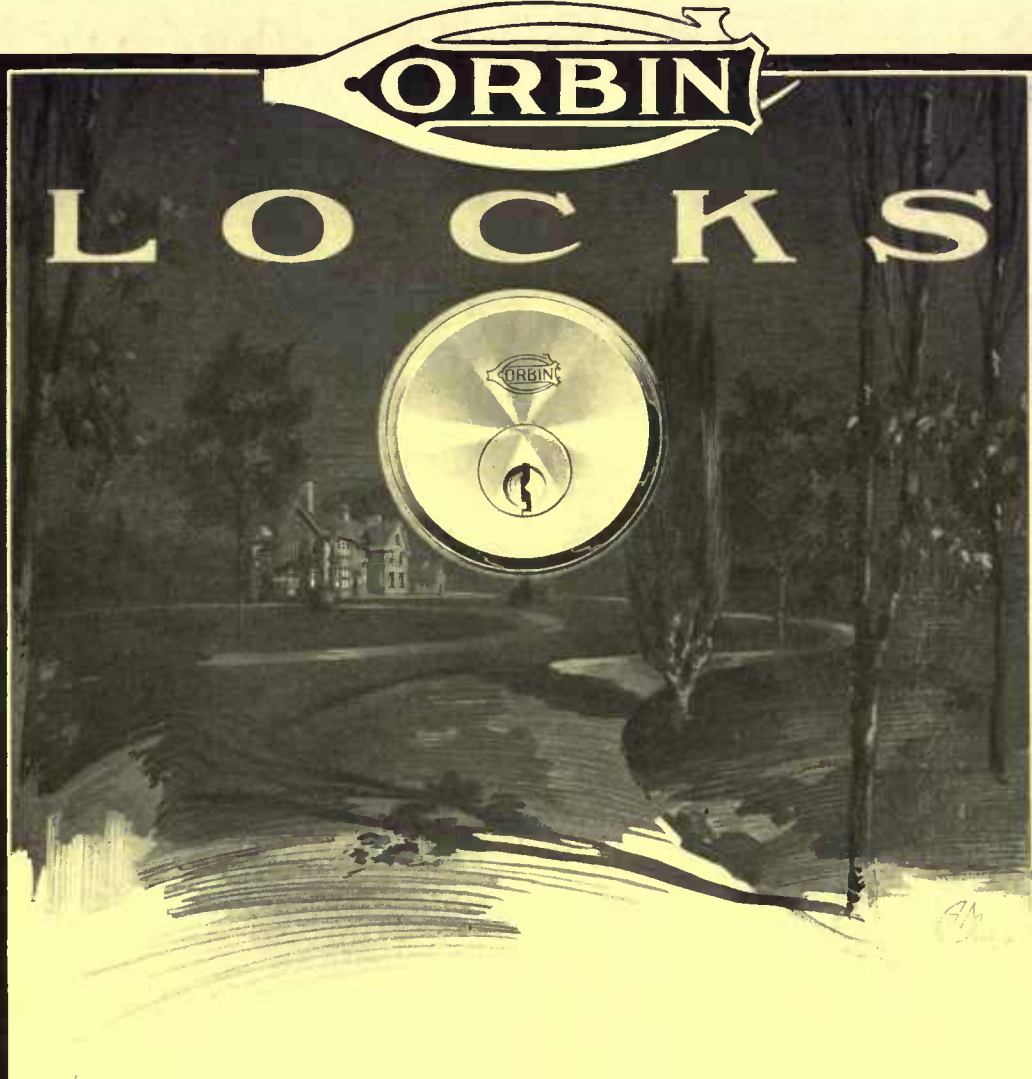
Where space is rather limited the familiar laundry table, the top of which turns back and forms a settle, is a porch accessory that cannot be improved upon. It is to be had in various sizes, and with the broad top and the box-like arrangement underneath, which furnishes at the same time a lower shelf and a receptacle for books or tea things, it can be turned to a number of uses, not the least of which is an extra seat for extra guests.

One of the most serviceable features of a certain big porch that is delightfully equipped for comfort and pleasure, is a heavy wooden table, built in Mission style, with a bench of corresponding length on either side. The table will seat six people comfortably and is often used for outdoor meals, and as the porch is well protected the table and benches are left in their places during the whole summer, so that an outdoor dining-room is always in readiness.

An attractive and useful model made heretofore in wood only, is shown this season in brown wicker and ought to prove a serviceable addition to porch furniture. It is a circular table, possibly four feet in diameter, and there are four chairs to match. The chairs have low backs, so low in fact that they fit under the table, and when not in use they are scarcely in evidence.

No porch is really furnished without rugs and screens or awnings, and these articles seem to have a way of keeping up in every respect with the procession of new ideas for outdoor rooms. The rugs especially are made in more alluring designs with each successive year, and are quite as pretty as those for indoor use. Grass rugs have long since proved their usefulness, and so have the rugs of Algerian fiber, that is very heavy and particularly adapted for outdoor service.

The designs of many of these rugs are quite Oriental in effect. Not in the coloring, of course, as there are rarely more than two colors in a rug, but the shapes of the figures are identical with those of the Oriental rugs and it is evident that the



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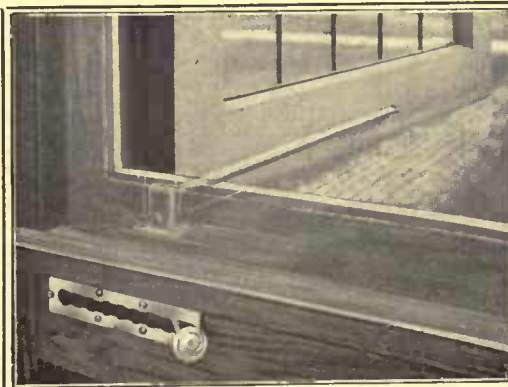
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designers have used them as models. The fiber rugs are for the most part plain and rather dignified in their general effect. A single large figure is repeated on a ground of contrasting color, with wide spaces between, and there is usually a deep border of the same color as the figures. Some of the prettiest rugs have no figures, but are in solid colors, the body of the rug in one shade, with a deep border that is lighter or darker, or possibly of an entirely different color.

For the porches of mountain camps or of summer homes situated in a country where there is practically no hot weather, Navajo blankets, with their brilliant colors, make most charming floor coverings, but for the average seashore cottage or country house the grass or fiber rugs in cool looking greens and tans and browns are the most appropriate, and are not to be improved on for service and lasting qualities.

In the way of protection from the sun, as well as from the too friendly interest of neighbors or passersby, there are awnings and screens, which like the rugs are made more attractive each year. Vines, of course, serve this purpose quite effectively and are charming to look at, but if they are thick enough to afford real protection they are also thick enough to keep out a good deal of light and air, and for perfect comfort in summer a porch with sides that can be left entirely open at times is preferable.

Where vines are used, however, a good plan is to train them over a lattice work. Not the ordinary lattice with the small diamond shaped openings, but one that is made on a larger scale, with square openings at least six inches across. This is quite as satisfactory, without producing such a shut-in feeling, and is particularly good for protecting one end of a porch or filling a space between pillars.

According to the ideas of many people, nothing in the shape of awnings can surpass the regulation red and white or blue and white stripes of equal width, that are at the same time serviceable and picturesque. Other varieties of the stripe are to be had, among the best of which are the narrow stripes placed quite far apart on a white ground, and there are also special designs for awnings, showing borders of conventionalized figures or solid bands on a contrasting background. For porches where awnings are not a necessity the sun screens of flexible fiber, that hang like curtains from the outer edge of the porch ceiling are most satisfactory. They are made in any size and width that may be desired, and in a great variety of colors and patterns, with stripes in blue and white, green and white, and brown and white, and small figures in the same combinations of color. So decorative are they in appearance that they add considerably to the furnishings of the piazza, and give thorough protection without shutting out either light or air. They can be hung to roll from the top, like an ordinary window shade or from the bottom, in the same

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way that such screens have rolled from time immemorial.

Means of lighting is another consideration in fitting up the porch room, in places at least where the industrious mosquito does not have to be reckoned with. If a house is wired for electricity there are, of course, several ways in which the porch may be lighted, from side brackets or the shaded lights in the ceiling. An effect of coziness that is not possible with fixed lights placed at such a height may be had by the use of the wicker stand with shade to match, into which an incandescent light is inserted, giving the appearance of a lamp. If there is not electricity in the house the best porch light is the candle lamp, that burns oil, but is constructed in the shape of a candle and has a wind-shield, to make it thoroughly practical for out-of-door use.

In numberless small ways, as well as in furnishings and rugs, the comforts and attractions of the porch are constantly being added to, until it can be made a place of luxurious ease, undreamed of in the days when Grandma dragged the second best rocking-chair out of the parlor onto the bare, rectangular front porch and rocked on the squeaky boards for an hour or two after supper. Porch pillows are considered a necessity as a matter of course in these days, and among other novelties is a waterproof fabric, a figured design in green, especially made for pillows and chair cushions used out-of-doors, that will stand endless hard wear and repeated wettings.

Circular trays with substantial handles over the top and compartments for a number of glasses make the serving of refreshments on the porch a thing easily accomplished. These can be had in nickel or in willow, and will hold from six to twelve glasses each. Serving trays made of wicker with glass bottoms over cretonne, although they have been used for several years, are continually shown in new shapes and sizes for porch service, and double-deck tables of generous size in the same combination of willow and cretonne are among the newer pieces of outdoor furniture seen this season.

One thing is certain. The great American public never did a more sensible thing than when it moved out on the porch for its summer campaign. Health and happiness have followed close on the move, and the development of the porch room has brought about no end of additional pleasures in the good old vacation time. The call of outdoors is irresistible, even if it is a constricted outdoors, bounded on either side by neighborly dwellings, and the person who has as much as six feet square of porch and fails to put it to good use deserves no better fate than a summer spent in a hot city, with a balcony, a front stoop, or even an ignominious fire-escape as his only breathing spot.



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The Eleventh Hour Garden

(Continued from page 39)

of autumn, and they are, of course, among the most satisfactory flowers for either cutting or making masses of bloom and color. Gladioli, planted late, will come in before frosts. There is, incidentally, no flower better suited for cutting and bringing back to the city or sending to friends, as it packs safely and in small space, and will continue to open out new blooms, in water, for nearly two weeks after being cut. And then there are the hardy chrysanthemums; if the place is one which you are likely to come back to another season, by all means put in a few of these most beautiful and easily cared for flowers.

While the handicap of a late start makes it especially desirable to get immediate results—which can, of course, be had only with plants already grown to a good size in pots—nevertheless, there are a number of sorts which will develop quickly from seed, and are decidedly worth planting even as late as the first part of July. Among such are nasturtiums, both dwarf and climbing; these are not only very easily grown from seed, but some of the new named sorts, in solid colors, produce mass effects of marvelous beauty—truly surprising to anyone used only to the old mixed colors. Escscholzias, with the poppy blossoms of gorgeous colors, portulacas, marigolds, zinnias, sunflowers and early stocks are others which, in return for the expenditure of a few cents for seed, will yield in a short time an abundance of fine flowers. Salpiglossis takes longer to mature than some of the above, but it is one of the most beautiful of all annuals, and well worth waiting for.

It is very often the case, with a neglected place, that the things to be obscured, painted out of the picture, are as important as those to be put in. An old stump, a dilapidated wall, an ugly out-building, may so obtrude itself into the general perspective that it challenges the attention of the eye before all else. And there are bare spots to be filled, straight lines to be broken, before the place can have the appearance of a real, comfortable home; and yet, if one does not own the place, no substantial gardening can well be undertaken.

It is in this extremity that another group of plants lends us assistance. They are all inexpensive, and will pay well for themselves in one short season's use, though several, such as caladiums and cannas, may be kept over by the local florists and started into growth for the following summer's use. Of these, the caladium—sometimes known as elephant's ear—is the most tropical in appearance and in requirements. If given a rich spot and plenty of water, it will grow with great rapidity to a magnificent size and form, a few plants quite transforming the appearance of a bare lawn. For backgrounds, or screening a fence or trellis, or concealing a bare corner, nothing excels the giant castor oil plants. From four- or five-inch plants (or even the beans

themselves) they will quickly attain a height of five or ten feet, and the large leaves have a beautiful metallic luster. They grow, when once started, like weeds, and are very gross feeders.

Cannas, started plants of which can be had very cheaply, also make a quick and tall growth, with very attractive foliage. The newer sorts are used for their gorgeous blooms, but the foliage is also most attractive. These also are easily kept over winter, and can be started in the spring to produce immediate effects out-of-doors.

Many a good veranda is rendered next to useless during the hot part of the summer through lack of vines to keep it shaded and cool. Honeysuckle, wistaria, trumpet-creeper, and such long lasting things one does not feel like investing in for a season or two. But there is a number of rapid growing annuals of which most florists and seedsmen have started plants for sale, and which will cover trellises and supports in almost incredibly short periods of growth. Among them are the Japanese hop, the variegated form of which is one of the most strikingly handsome of all vines, *Cobaea Scandens*, with its numerous bell flowers. Others are the cypress vine, with intense scarlet blossoms; the new scarlet climber, the fantastic canary-bird vine, the marvelously rapid kudzu vine, and even the "scarlet runner" bean, which, if it were only rare and high-priced, instead of a common vegetable, would be considered a very beautiful thing. All of these are so cheap and so easily grown that there is no excuse for bare posts, shadeless porches, and sun-scorched windows, even in the vacation home.

While there is no room here to take up in detail the planting of a vacation garden, it may be said in passing that a garden planted after July 1 is perfectly practical, and can be made to pay for itself handsomely; in fact, will yield its owner many of the best vegetables at a time when their "season" with the neighboring market gardener has gone by. There exists the same necessity to have the soil rich, and to get things under way as soon as possible, but the majority of the vegetables can be had in this way just as well as not, and much cheaper and *surer* than they can be bought from the farmers round about.

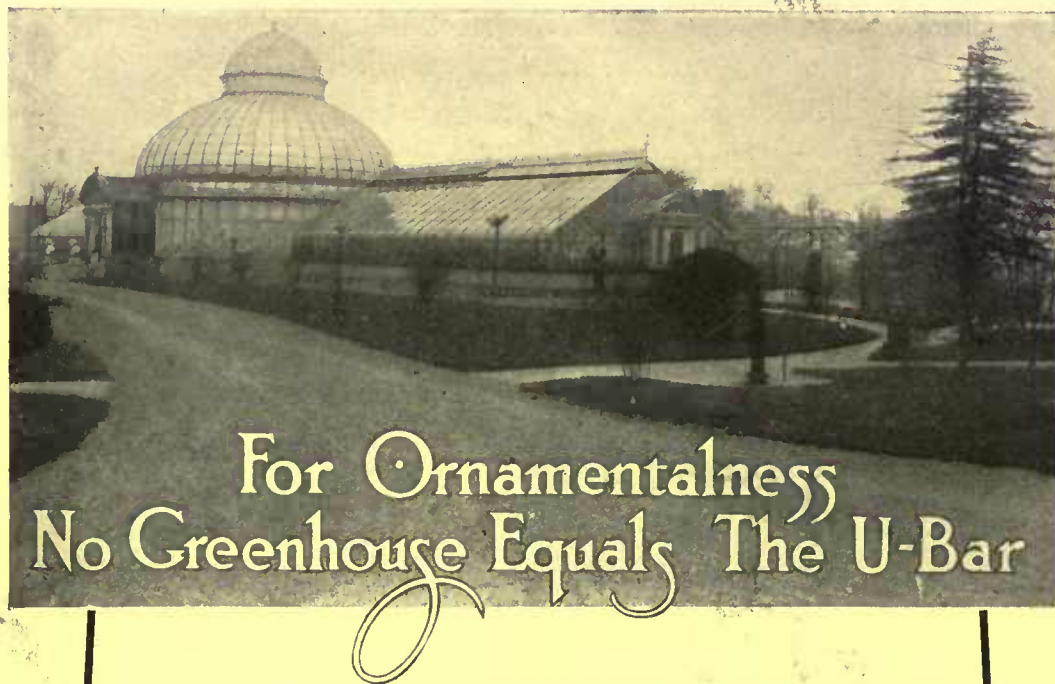


Making the Summer Home Attractive

(Continued from page 25)

cost \$2.50 a pair.

From France some very charming things have found their way to our shores. The two washstand sets shown in the illustrations come from Brittany. They are made of heavy earthenware and are finished in a high glaze in two colors. The set which is made to hang on the wall is a bright green. The ewer or pitcher



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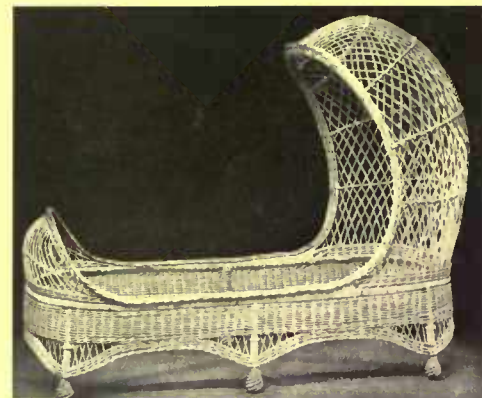
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is provided with a little spigot, and the bowl is made flat on one side so that it can be set close against the wall. The bowl is also provided with two holes near the rim so that it may be hung on two nails to give it greater security. Two little brackets, one to support the bowl and the other for the pitcher, come with this set; there is also a mug. Against a wall of tongue and groove boards this set is very effective and is a most useful contrivance for the bungalow or camp which is not provided with all the conveniences of modern plumbing. This washstand arrangement can be made very attractive by hanging curtains of the material used for the other draperies of the room, on a rounded rod (barrel hoops can be made to serve the purpose satisfactorily) placing a narrow shelf for the various toilet necessities between the two brackets and a narrow mirror at the side. Quite a complete lavatory can be arranged in this way, and at the same time add very considerably to the appearance of the room in which it is used. The other set, of which there are five pieces, comes in two colors, an old blue, and a brilliant green like the set just described.

Of the rugs shown for use in summer homes there is a great variety this season exceedingly attractive, and very moderate in price. A plaited grass rug is one of the most neutral in tone, and for this reason, will work in successfully in a number of places. These rugs are made of dried grasses braided into strips about two inches wide. These strips are then coiled



Willow beds are now made with pleasing canopy tops

round and round in spiral form, and sewed together, making round, or rather elliptical shaped rugs. A little color is woven in in simple design by using strips of dyed wool plaited in with the grass. The smallest of these grass rugs, just a little mat, costs \$1.75, a rug 6 x 9 ft., \$11.50, and a rug 11 x 13 ft. 9 ins., \$23.50. Rugs made by blind workers are of extra heavy quality, and in excellent colors, and give better service than the lighter weight rag rugs, attractive as many of these are in color and design. The chief objection to most of these light weight rugs is that they are apt not to lie flat on the floor.

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ful colors and designs, and these are heavy enough to stay in place. The new spring designs are unusually good, and there is hardly any color scheme that may not be found in one of these rugs.

Japanese jute rugs are made in some excellent colorings, and the prices are remarkably low. A 3 x 6 ft. rug costs \$2.25, and a 9 x 12 ft. rug, only \$13.50. Some of the colorings in these rugs do not compare unfavorably with the old Chinese rugs, and while they might not give long service, \$13.50 for a large rug could safely be invested, though there was not more than two or three seasons' wear to be had out of it. The Japanese cotton rugs, blue and white, and green and white, cost just twice the price of the jute rugs, that is, \$4.50 for a 3 x 6 ft. rug, and \$27 for a rug measuring 9 x 12 ft., and give excellent service. Nearly all these rugs which I have mentioned are suitable for porch use, as well as for indoor furnishing.

One does not have to go to the far shore of France, or of India, or of Japan, to get any of these things that are not of domestic manufacture. All these unusual things here enumerated as being particularly desirable for bungalow use may be bought within the limits of a few city blocks. Indeed, one does not have to be traveled to have about them the artistic productions of other countries, for everything in time finds its way to our shores, and we have only to have "seeing eyes" to appreciate the things when we find them, placing them, in our homes.



Reclaiming Old Houses

(Continued from page 29)

territory. We were fortunate in having at the start numerous photographs and some measured details of the period above mentioned; it saved us making a special expedition for them and also saved time.

Let us take our interior first, bit by bit, and see what was done with it. In the old part it was found necessary in laying the new floor, to level up with furrings on top of the old floor. Buildings will settle and get out of level. We used for our new floor best grade Southern pine, of narrow width. In the ell on the second story we laid but a single floor in order to save every inch possible—there being considerable difference in the depth of the old oak floor beams and the shallowest we could contrive with our modern spruce article. When the top of the window casings do not come too close to the ceiling it is best not to do this, as it gets rather dirty and is apt to be scarred during the balance of the construction. As it was we waited until the masons were out of the way before we laid it and even then it had to be scraped. Judging from the way in which the ceiling cut into the tops of the casings on the first floor, and from the style of the glass we judged that our original windows were not as high by one width of

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siding. The old floor timbers are far too rough to assume them to have been left exposed.

When the windows had been enlarged, it is probable that new doors were hung as well and at the same time new back-boards put on to the casings. All this work was old, but it was not the original by any means, nor was there anything to show what the original might have been except the ancient front doors and these, which were double, showed the horizontal panel. However, our second story door and casings were far too good to abandon and we retained them with their design of four upright panels. In the kitchen and other parts of the house the new doors were of cypress in a natural and dead finish. Otherwise they were painted white. The old door knobs were all of white porcelain; we substituted octagonal glass on the lower story to go with the white paint, and black to go with the natural wood. These last were also used on the second story, while with the white paint we used mahogany. In the bedroom the old simple mantel was replaced. This had an architrave very similar to those of the door and window and below the shelf was a well proportioned dental molding. In the reception-room the old mantel was also retained, but as it had a cart-before-the-horse arrangement of panels in the frieze, we filled these with composition ornaments to control, but not to hide its oddity. This last it may be remarked lay in making the central panel a comparatively insignificant division as compared with those flanking it.

In our new dining-room there was little to hinder us with our feature, which is the fireplace side. From the plan and the pictures it will be seen to be well balanced. It is mostly of wood and such little plaster as occurs in the surface. Of the chimney breast proper, it will be noticed for its simplicity. The few ornaments are introduced to get terminal spots and produce lines. We are so far from the common thing that we feel we may do this. Otherwise it follows closely in its molding and general suggestions an old house at Windsor which still retains some of the earmarks of the early period both in its moldings and in its overhanging second story. The walls of the kitchen together with the servants' rooms and the bathrooms have been painted, which allows of easy cleaning. The walls of the reception-room are done in flat fresco color of a pale yellow. Those of the living-room are covered with paper of a medium brown in a pattern suggesting the texture of the Eastern grass fabrics. A limited and judicious use of dull gold adds richness to the effect. This paper was chosen above the pattern sort because it was to serve largely as a background for pictures. The dining-room, being intended to carry itself without much pictorial aid, is of a very good semi-realistic tree pattern in gray monochrome with touches of subdued green. A couple of the chambers show examples of the per-

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pendicular stripe with the usual diaper pattern of flowers. The hall and other chambers are still in the plaster, time being taken to discover satisfactory patterns. As a matter of fact the new plastering was allowed to stand the first season, so that it might find itself and, if cracking, be repaired.

The exterior of the main building has undergone but little alteration, except in the raising of the long windows and the addition of a molded water-table across the front. The sash are made with the old fashioned heavy muntins, but the size of the glass has been increased from its probable original size. Its shape too suggests the general block of the building and is more in harmony than a narrower form might be. In reality it is a compromise which considers in a measure the difficulty attending the cleaning of small panes. Old time glass was small from the conditions attending its manufacture.

The additions consist of an elaboration of the front entrance, the new oval window above, the bay window at the rear and the new piazza. There has also been added a galvanized gutter and this is always best when the original has no installed gutters.

The original front door was a double affair and so narrow that to use one-half of it was a nuisance. The new doors were similar in design, but wider. The doorway is a composite and has its origin in different originals.

As to our piazza: this has been made to balance, that this characteristic of the house proper might not be lost sight of. Our cornice is as simple as is practical and certain members in it correspond and line up with the top of the window casings. Our columns and pilasters have a double entasis, that is they are curved from the base to the cap while in the architectural conceptions the lower portion is straight. We have authority for this and have utilized it so that its juxtaposition with the out-of-plumb corners would not assist in the emphasis of this fault. And right here it might be well to state, that as a further, and we trust complete disguise, there are to be four lattice frames extending from the base to the lower story window-caps and located on the front next to each corner and on either side of the entrance motive. When these are overgrown with trumpet-creeper we have hopes that our contrary lines may be lost sight of. The piazza rail and balusters are about as simple as we can find authority for.

The recess in which the service steps enter the kitchen is suggestive in line of the old woodshed addition. This it will be noticed has an architrave bare of moldings and the cap is made up of the case moldings of the windows, with the top of which it is in line.

The bay window added to the living-room is so inconspicuous a feature as to speak for itself in the picture, but the long sweep and terminating curve of the roof of the open-air room is apt to make a



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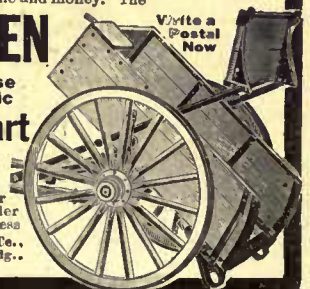
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New Yorker, unfamiliar with the valley, bristle with interrogation points. No, let us hasten to assure him, we have not borrowed from the Dutch and in so doing mixed up style. The old-time craftsman did this for us and there are many existing examples in the valley to testify to the fact. It is a treatment that often serves to surmount several unsympathetic conditions, and as in the case in question, is pleasingly effective.

It will be noticed that the rear of our ell, owing to the abrupt falling off of the ground, looms up in the air considerably. Therefore the laundry yard with its wisteria covered enclosure will serve, besides its initial purpose, as a screen to eliminate some of the height of the offending ell.

The foregoing will serve to give some idea of the problem presented and our method of solving it. It may not be a perfect solution; probably it could be bettered; but we feel that it is a fairly creditable effort and we are firmly convinced that our course in following the local craftsman, rather than the wider source of inspiration and the very correct taste of the average architect, is the only sane method of handling an old house. One does not set the same palette for every sort of picture.



Garden Suggestions and Queries

(Continued from page 45)

ing the last two months on wood of the previous season. These should be gone over as soon as the flowers fall, and cut into shape for next year. Do not be afraid to leave them a little open, as they will make a great deal of growth between now and next May. If they have been neglected about the roots, by all means spade up about them for a foot or two, making a neat circle, and give a little manure or fertilizer. Shrubs, just because they will stand abuse and still live through it, are the most neglected of all plants, going for years, frequently, without being touched or even thought of.

IN THE FLOWER GARDEN

Here, too, there is not much to be done, except to keep the surface worked over, the beds thoroughly watered once in a while, about dusk, if the weather is very dry, and a few late tender plants, such as salvias or tuberous begonias, set out.

If annuals have been started in the seed border in May, some of them will be ready for transplanting and all will need careful cleaning, cutting back if they are getting too tall, and thinning out if they come up thick.

Another most important thing to attend to at this time is the procuring of plants of choice new varieties from which to work up a supply for next year. One plant of a new or especially fine geranium or fuchsia, for instance, procured from a friend, or from the florist, will give you

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a supply of cuttings for rooting next fall, and all the plants you can use by next spring. This is one of the most important features of economical garden improvement and should not be overlooked.

SMALL FRUITS

Currants and gooseberries will need attention this month. Spray for currant worms and mildew, and mulch gooseberries to retain all the moisture possible. The currants will do better for a mulching, as sufficient moisture greatly improves the quality of the fruit.



The Naturalizing of a City Man (Continued from page 34)

He seemed loath to admit that the cultivation had had much to do with it.

The crop of potatoes in the newly cleared land, which had been put in later than the others, and given special attention, was looking the best of any on either of the two places. They dug into a hill or two, and found them of good size already.

"I think I'd dig them now, if I was in your place," said the Squire. "Potatoes are worth a dollar a bushel now, and they'll probably go to seventy-five before long—maybe sixty, if we get some rain."

"These won't," said Mantell, smiling. "They're for seed. I may have some to spare—at a dollar a bushel."

"Well," said the Squire, "I guess I'd been ahead of the game, if I'd got that cultivator when you told me about it, and kept one of the men busy with it. I guess that that's a pretty good thing, maybe, for a dry season, after all."

His care and persistence in doing everything he possibly could do to fight the drought every inch of the way, even in the face of the smiles of his friends—which are sometimes the hardest thing of all to bear—kept his crops in better shape. The onions and potatoes especially were helped by being kept in a growing state, though making little progress, until the rain did come. Then they jumped ahead again, while those of most of his neighbors were too far matured and dried up to be started into new growth. Several heavy showers in the first part of September made the outlook much better, and gave new confidence to the somewhat discouraged members of the hard working firm.

Although the farm crops were Mantell's special care, a great deal of his attention was also given to the garden, where he and Raffles together threshed out the many problems of cultivation, battles with various insects, crop rotations, etc.

Most of the planting for the year, of course, was done. But during July they had late crops of turnips and other fall vegetables to sow, and late cabbage, cauliflower and celery to set out. The little brook, across which they had made a sod dam, came in very handy for this late transplanting in dry weather, as with little



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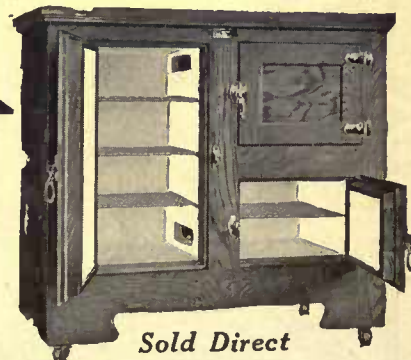
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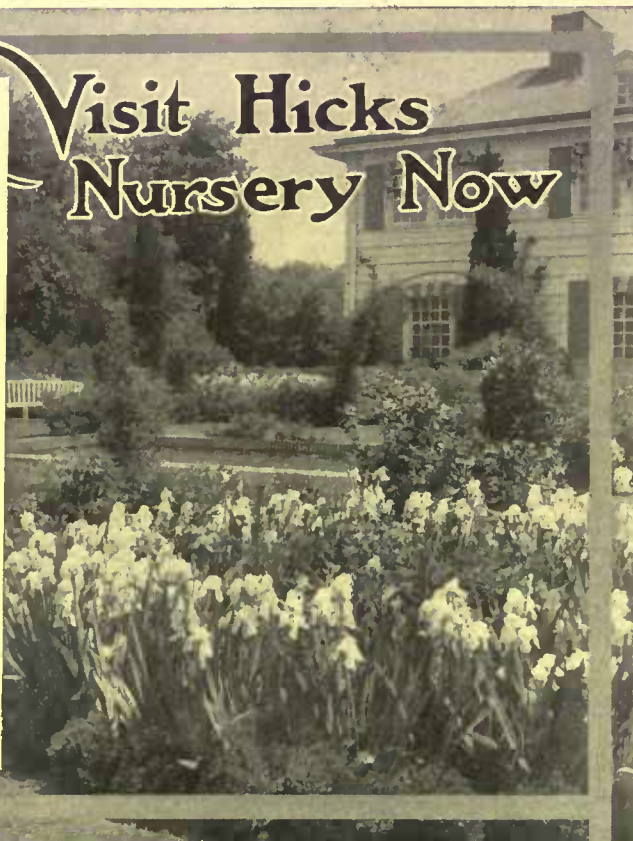
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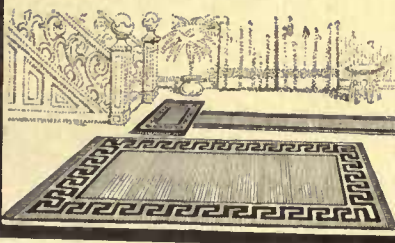
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trouble they could put a half dipper of water into each hole before setting the plant. Mantell at first thought of putting it around the plants after setting them, but it took only a moment's reflection to show that Raffles' method of putting it in the hole was the right one.

One thing that never ceased to compel Mantell's attention was the great difference between what they sold things for and what he knew people in the city were paying. Priestly was not a shipping point for produce; truck of all sorts and even potatoes were imported by the storekeepers there in large amounts. In many instances Mantell figured out that consumers in the city paid for various staple products, not perishable, at least three times as much as the growers in the big shipping districts received for them. Freight charges could account for only a small part of this enormous difference. As a business man, it worried him to think that there was so much loss between the manufacturers and the consumer. Was there no way in which the actual producers could get a bigger slice of what the consumer had to pay? Here was another problem which, tucked away in the pigeon-holes of his busy brain, occupied many of his spare moments, for Mantell, even when busy with his hands, at such more or less mechanical jobs as weeding and cultivating, always kept his head busy with the ever-arising problems of his new and many-sided business.

The great agricultural event of the fall was the local "Fair." Nothing else in the course of the year was so universally attended. Practically every able-bodied person for miles around put in his appearance here. The first and greatest attraction was the crowd. They all went, primarily, to see each other, and a very good social institution it was. Next, in varying degrees of attractiveness, came the horse races, the balloon ascensions, the vaudeville "features," the agricultural and horticultural exhibits.

The Mantells were very enthusiastic about the Fair. About a week before the local one, Mr. Mantell, Robert and Helen had attended a larger one not far from Priestly, to see the State Experiment Exhibition given there. Robert and Helen were quite carried away by the vegetable and farm exhibits, and came back fully determined to capture every prize they possibly could at the local fair. The Fair Book was gone over carefully, and everything they thought they had a ghost of a chance at was checked off. Mrs. Mantell caught the enthusiasm and decided to compete in the jelly and cake and bread lists in the Ladies' Department.

So for several days previous to "Entrance Day," all was preparation and bustle.

Mantell had been quick to note, at the other fair, that the care and neatness with which the various exhibits had been prepared and staged had a great deal to do with the appearance of their quality. Clean washing, clean baskets, or old ones lined with clean white paper around the top, neatly printed labels, clean berry bas-

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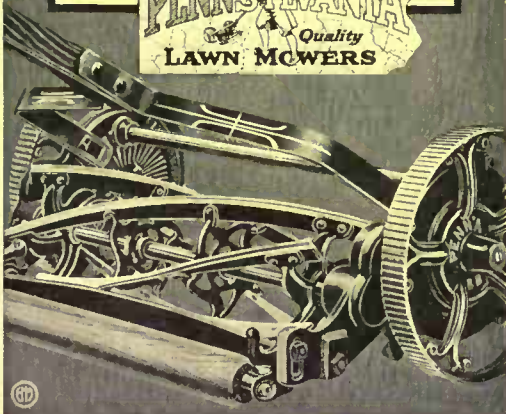
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kets, or paper plates for things shown in small amounts, in a collection, like beans, tomatoes, onions, etc.—it was inevitable that such improvement in looks as all these things effected would make the produce itself look correspondingly better.

So Mantell, having decided that they would make the best showing they could at the Fair, went after it in a businesslike way. A list of all possible entries was made, and then certain things assigned to each member of the firm. Mantell himself took the field and farm crops. Raffles, the vegetables; Robert and Helen, the poultry; Mrs. Mantell, the household things, and Raffles and Robert and Helen, the cut flowers and potted plants. Along some lines, of course, they were shy, but the list totaled up to quite a formidable one. As the various things began to be collected into one place, it looked more and more formidable. There was a possible total, in first premiums, of nearly sixty dollars!

In exchange for some garden produce, which they were easily able to spare, Mantell had some neat but striking cards printed by the proprietor of the local paper at Priestly.

He also got a number of new pots, of various sizes, and as he knew from his own purchases in the spring about what they must have cost the dealer, he got them at a very fair price. These were, of course, for Raffles' potted plants, of which he had been able to get together quite an imposing collection. The clean, new red pots made them look a hundred per cent. better.

It took three trips with their largest wagon to get everything to the Fair on the eventful first day, and they had a hard time finding adequate room to place things properly. Mantell, with Helen to help him, looked after that end of it, while Raffles and Robert brought the things to them. It had taken much longer to get things collected and prepared than they had anticipated, but by working late into the night before, and getting an early start that day, they were among the first on the ground, and secured one of the best positions in the hall.

Before the day was over, Mantell saw plainly that he would lose out on many of the entries, but the biggest prizes he was pretty sure of. The exhibits seemed, for the most part, to be made only by those who felt quite certain of one or two things—a half bushel of late potatoes, and a large squash, for instance—and would not bother to take anything else. To his surprise, he found that he had more entries than any other exhibitor of vegetables or plants in the hall, and they were put up in a way that gave an effect of their being even more, comparatively, than they were.

When the judging was done, on the following day, he had reason to be pleased with the results. Fortunately, the judge had been a man from the agricultural college, who knew his business and had shown no favoritism, as, the Squire said, sometimes happened. They got the first

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Box 64
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prize on general collection of vegetables, and on collection of plants in pots, which was the biggest in the hall department, and first on collection of onions, and of field corns. Besides these, numerous other first and second prizes swelled the grand total to \$33.50. And they sold quite a lot of the stuff there, at the close of the last day, at extra good prices, so that they felt well repaid for the time and energy put in. But besides this, and of as great, though less tangible, value, was the advertising he got out of it. Hardly a person for miles around now but knew of the Mantell enterprise; and he made a host of new friends—and rivals—during the two days spent there.

As the fall approached Raffles spent half a day in preparing a number of lath sashes for some of the coldframes, in which to start pansies, daisies, and a few other greenhouse seeds, and lettuce seed for the early crop in frames. Under the shade thus afforded, and in the soil watered thoroughly the day before sowing, they came up quickly and strongly.

Much of their time, too, was spent in the beginning of the harvesting season and in getting ready for the crops to be reaped, and it was not long before the click of the reaper was heard in the field.

There was a mellowness and peacefulness about the oncoming autumn which Mantell had never realized in the city, even on those rare occasions when he got away for a drive through the neighboring country. There was a sense of quiet joy and safety in thus getting ready to put in their winter stores, which sprang from some instinct still strong in him.



Making a Bowling Green

(Continued from page 16)

The green must not only be well constructed, but what is just as important, it must be properly placed. If put out in the open, where the sun will beat on it all day, not only the surface will suffer, but the time for play will be considerably shortened. An open area under a summer sun and browning turf is not attractive. A location so near large trees that their shadows will fall across the green is to be desired. A gentle rise in the ground leading from the green makes the matter of arranging places for the spectators easy of solution besides relieving the stiffness and formality of the usual seat formation.

An elevated area about all greens for the accommodation of spectators is desirable, but where possible the natural rising ground should be preferred.

The best expression of this idea was a green arranged at the bottom of a bowl-shaped piece of ground the slopes of which permitted the tasteful arrangement of rustic benches and chairs, with just enough trees dotted about to temper the sun's rays and throw picturesque shadows.

While it is not possible always to find these conditions some treatment can be ef-

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fectively applied to any situation that will knock off the rough edges and soften down unpleasant parts. Trees, shrubs and plants are the means to accomplish this, with just a little thought as to their proper disposition.

In exposed places, such as near the seashore, a pergola arranged with vines would add an attractive feature and afford much welcome shade.



The Kind of a Summer Home to Build

(Continued from page 14)

The kitchens and pantries should be even more convenient than those of the ordinary country home, and the less furniture, the less dusting and sweeping is required, and the better for all concerned. With some this desire for a complete break from their usual habits extends further than with others. There are many among my acquaintances who require in their homes perfect service, the best of cooking, the most finished of housekeeping, and are not happy unless their vacations are spent in the roughest possible way. They want themselves to do the cooking, the cleaning and the bed-making, and desire a complete change from the winter's routine. For such as these there is nothing more satisfactory than an adaptation of a hunter's camp or a frontier cabin. This may be built of logs in true frontier style or may be built of ordinary wood with slabs, as the outside rounded portion of logs sawn away when the logs are cut into boards are called, or of shingles or of vertical sheathing. Rough built-in corded bedsteads or hammocks may be used to furnish them, and, made by one who knows how to make it, a pine bough bed is a very comfortable place. Camp means primarily the reduction of the art of living to its simplest form, cooking over a fire in the open, eating in the open, and shelter only for sleeping; a not unusual compromise is the building of two cabins end to end, with a roofed space between, open on both sides; such is the type of which we read in Parkmans' Histories or in Mark Twain's "Huckleberry Finn." There is a little photograph of a negro cabin with this article, built of logs, roofed with long "shakes," as they call them (the original shingles), which is a very satisfactory type of structure in which to live the real country life. The two ends are used for bedrooms and the open space between for a dining-room and general living-room.

Another kind of camp is illustrated in the log house with an open porch in front, where a single room divided by canvas screens serves for sleeping quarters, and a piazza for every-day living use, but one can have a very good time in a building as plain as this if one is not over nice in habit and the other members of the party do not snore.

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PLUMBING
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Genuine "Standard" fixtures for the Home and for School, Office Buildings, Public Institutions, etc., are identified by the Green and Gold Label, with the exception of one brand of baths bearing the Red and Black Label, which, while of the first quality of manufacture, have a slightly thinner enameling, and thus meet the requirements of those who

demand "Standard" quality at less expense. All "Standard" fixtures, with care, will last a lifetime. And no fixture is genuine *unless it bears the guarantee label*. In order to avoid the substitution of inferior fixtures, specify "Standard" goods in writing (not verbally) and make sure that you get them.

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Toronto, Can. 59 Richmond St., E.	Boston..... John Hancock Bldg.	Washington, D. C..... Southern Bldg.
Pittsburgh..... 106 Sixth Street	Louisville..... 319-23 W. Main Street	Toledo, Ohio..... 311-321 Erie Street
St. Louis..... 100 N. Fourth Street	Cleveland..... 648 Huron Road, S. E.	Fort Worth, Tex., Front and Jones Sts.
Cincinnati..... 663 Walnut St.	Hamilton, Can..... 20-28 Jackson St., W.	

The principal, then, of the summer residence, its "*leit motif*" as the opera programmes say, is a simplicity which may be either comparative or positive as individual tastes dictate, but it must at all events be distinctly a change from the ordinary routine of life, and this must be reflected in its artificial expression, the house.



An Amateur's Water-Works

WHEN we began installing our ram we knew water usually ran down hill and that it would run from a high point to a lower one, even over a higher point in between, if enclosed in a pipe. We also knew that piping came in certain lengths, but could be cut to fit a desired space and the ends re-threaded. That was the extent of our knowledge, except that water was needed on the top of our hill.

A strong-armed man was also an asset, and he had seen piping cut and threaded, and knew that a few drops of oil helped the tools to get a grip, which was fortunate, for we would hardly have guessed it.

He also added a profound disbelief in the success of the undertaking. Either he doubted the ability of the little ram to force water up a hill, or our ability to force the little ram to go. He was too tactful to specify, but his state of mind furnished an entirely superfluous atmosphere of gloom to the scene of our labors.

The first delay was due to the fact that lengthy measuring of water supply, distances and elevations and deep study of catalogues demonstrated that no ram in existence could send that water up such a hill. Then one day we found in a new catalogue the illustration of a ram on a different principle from the larger ones. It could pump from a spring furnishing as little as a half gallon a minute. Ours gave three-quarters, and no ram before made would work with less than a whole gallon per minute. We were elated—ordered a ram and piping and began to learn about pipe laying.

The first lesson, furnished by the hardware dealer, was that there was a special tool for cutting pipe. We had imagined a cold chisel would do (as it surely would if time were no object). Then we learned of dies for cutting threads on pipe when the original lengths were subdivided. Then, that piping comes in irregular lengths, about twenty feet. Our ignorance of this variation caused considerable trouble, for desiring a line eighty feet long from spring to ram we laid down four lengths of pipe and went to work excavating, at the point they stopped, for the ram pit, only to find, later, that the four lengths together measured but seventy feet.

Then we found that one coupling comes with each section of pipe—apparently enough, but in actual work extra

(Continued on page 68)

The Lunt-Moss System of Pneumatic Water Supply for Country Homes



operated by hand, gasoline or electric pump or by windmill, is more and more in demand. It yields running water for faucets, bath, water closets, barn, garden and lawn, etc., also hot water—in connection with range—for bath, kitchen, laundry, etc.

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We supply Electric Light Outfits for country homes; also Gasoline Engines for farm purposes—wood sawing, bone cutting, etc.

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New York Office: 37 Warren Street.

The Importance of Well-Built Chimneys.

MANY times when a furnace, heater or range fails to give full satisfaction, the trouble lies with the chimney and not with the apparatus, where most people usually look for it unless they have had previous experience in such matters. Chimneys are often slighted when houses are built by contract, because the work is mostly hidden from sight.

In order that a heater or a range may give good service, there must be a constant and uninterrupted draft from the openings in the apparatus to the top of the chimney, created by the wind sweeping across the chimney top. Now chimneys are very generally constructed with two flues, and the partitions between these flues ought to be built as carefully as any other part of the chimney. As a matter of fact, the flue partitions are often constructed most carelessly, perhaps because the workmen do not realize the importance of having them properly built. Openings may be left, or the bricks may be placed in position so loosely that several fall out after a time. Then the draft is interfered with, for the air is drawn through these openings instead of directly up the flue. The extent of this interference depends of course upon conditions, but it may be sufficient to cause serious difficulty in the management of a heater or range that connects with the chimney.

There often is trouble if a fireplace is connected with a flue into which a pipe from a stove or range leads. This may be remedied, however, by having a damper installed in the throat of the fireplace. When the latter is not in use the damper should be kept closed, so that the upward current of air will be drawn from the range or stove instead of from the room into which the fireplace opens. When there is a fire in the fireplace, less difficulty is experienced, but the wiser plan is to reserve the flue solely for the fireplace.

Fireplaces which smoke are commonly seen, even in some houses which otherwise are very well designed and constructed. Often this defect may be remedied by making the chimney a little higher, or by capping it with a cowl or hood, the latter expedient being especially effective if the smoking occurs only when the wind is from a certain quarter.

Occasionally lack of fresh air in the room is the cause of smoky fireplaces. This may happen easily if the fireplace is too large for the apartment and the remedy for the condition is to construct a small flue from the basement to the fireplace, thus supplying an abundance of fresh air and thereby creating a good upward draught. In other instances, there are fundamental defects in the construction of the throat of the fireplace. They can be righted only by tearing out some of the bricks. In a case of this kind which came to my notice recently, five dollars was the cost of changing a fireplace which smoked badly into a good one.—E. I. F.

Dept. B-6
Morgan Co.
Oshkosh, Wisconsin

I intend to build or remodel within the next 12 months. Kindly send me your catalogue in any way by making this request.

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We tell all about them in our "Door Beautiful" catalog, an artistic de luxe book with many photographic reproductions of handsome interior and exterior views, showing Morgan Doors and Millwork in actual use. It also contains much valuable general information for home-builders. There's a copy for you—it's free. Fill out the coupon and mail it to us today. Book will go forward immediately upon receipt.

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COLDWELL LAWN MOWER COMPANY

Newburgh

New York



THE LARGEST LAWN MOWER FACTORY IN THE WORLD.

(Continued from page 66)
ones are needed. When a section has to be cut to fit a space another coupling is needed, and then occasionally one is split. A supply of elbows and half elbows is also needed, and unions.

We also found that a hasty order for couplings and elbows to a different firm from that which had furnished the piping resulted in fittings that didn't fit, and there was a slight difference in the threading.

Our tools accumulated with our experiences, and finally consisted of a Stilson wrench, which is a monkey-wrench with curving jaws to hold pipe; a large square-jawed wrench to hold the dies and a die to fit each size piping used. This last is a small steel square which cuts threads in piping. We used two sizes of piping—one would have been better. Other accessories were a screw-driver, already in hand, a vise for holding pipe while it is being cut or threaded, and leather for washers. If the water workers wear laced shoes this last item may be dispensed with.

During the progress of our work, at the foot of a steep hill, a washer was frequently in demand and shoe tongues proved quite satisfactory. If a thin washer was needed the woman's shoes paid toll, and if a thick one, the strong armed man sacrificed a part of his and the trip to the house was avoided.

Unions are also necessary, and one can hardly use too many. These I learned to be a kind of coupling which can be opened without disturbing the pipe on either side. After the work is done, if for any reason it is necessary to open the pipe, they make it possible without great difficulty. Without them, reaching the middle of the pipe to open it is like taking beads off a string until the desired one is reached; one section after another has to be unscrewed.

We found that pipe frequently has trash inside and sometimes iron filings, and each section has to be carefully shaken, end up, and blown through before laying the pipe. Let the old spring alone as far as possible. A long time is required for earth to settle and pack after a new wall has been put in. You may find the loss from seepage so great that the flow on which you have made your calculations is no longer there.

Finally I would say to the country householder who possesses a spring, "Do not hesitate to install a ram because expert labor is not to be had and you know nothing about it yourself. Go ahead; you will learn as you go along, and the pleasure you will feel on seeing the little stream of water flowing where you wished it will repay all your struggles many fold." F. G. FEASTER

A New Golden Myrtle

MOST everyone is familiar with the trailing myrtle used as a covering for slopes, rock work, banks and in window
(Continued on page 70)

Plan Perennial Planting Now

The Palisades Popular Perennials and shrubs make the permanent gardening effects—the kind that assure a garden feeling the year around. Plants that bloom and wither in a week or two at their respective seasons have a place—but return a minimum of compensation for the toil and care you devote to their planting and growth. With perennials the conditions are diametrically opposite. You obtain a maximum compensation, one that every season enhances.

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Describe your conditions and we will send our Catalog No. 20, and suggestions to meet your needs. Write now.

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A Combination Range for Every Purpose

Good for winter cooking with heating; good for summer cooking without heating—the

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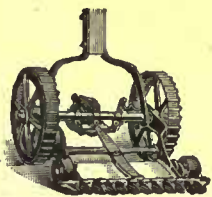
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SAVE MONEY ON YOUR FALL BULBS BY ORDERING NOW

ALL ORDERS FOR FALL BULBS PLACED WITH US BEFORE JULY 30th, WE WILL BOOK AT IMPORT PRICES

You will surely want some "Daffa-down-dillys" (daffodils) — the old-fashioned kind that grandmother used to grow, at 1 cent each, or the most up-to-date variety at \$1.00 each.

Or some of the charming Narcissus, Poeticus—(pheasant's eye or poets' narcissus). They are quite the most popular and beautiful for naturalizing in the woodland borders of the wild garden. They are very hardy and multiply rapidly.

Special advance order import price for flowering bulbs of this Narcissus, are as follows:

100 for 75c.	1,000 for \$5.75.
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Other fall bulbs in proportion. Write us your list of wants, and we will give you complete import prices.

Be sure your name is on our list for the fall Garden Guide. It will be mailed to you free, the middle of August.

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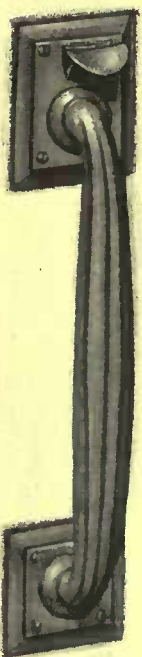
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(Continued from page 68)

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(Continued on page 72)



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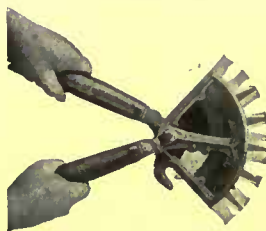
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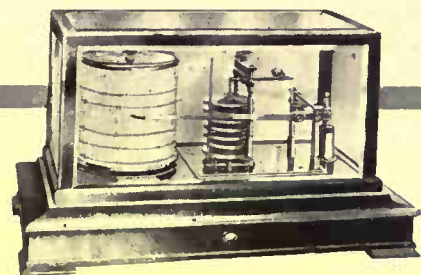
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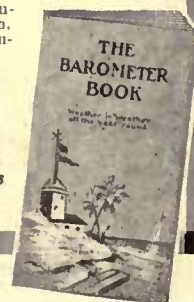
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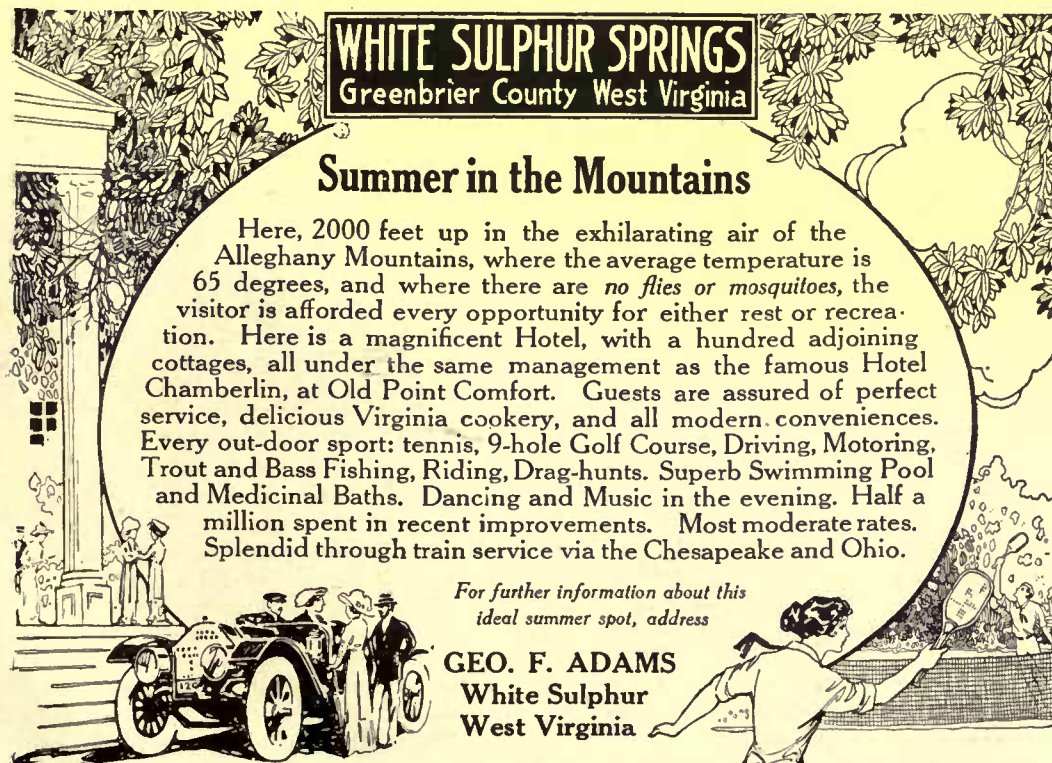
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(Continued from page 70)

march of the main path is always good form.

In our narrow garden this path is necessarily at one side, convenient for ramble-covered arches, that are thrown from the fence across it. It terminates in a bed of lilies-of-the-valley at the entrance to a tiny summer-house, whose frame of poultry wire is completely covered with woodbine and the snowy clematis, making a shady, fascinating place of retirement.

A grape vine trained on a wire diagonally from the back porch to a tall pole at the end of the garden casts pretty, flickering shadows across the grass plot. Wire netting at the top of our northern fence shuts out with a bank of color all laundry exhibitions next door, while in their season violets, tulips, pinks and other blossoms border the whole enclosure.

Little by little we have built our nest in the heart of the city, and yet there are possibilities (winter plans) to be worked out each spring. **SUSAN E. W. JOCELYN**



Book Reviews

[The Publishers of House and Garden will be glad to furnish any books desired by subscribers on receipt of publisher's price. Inquiries accompanied by stamp for reply will be answered immediately.]

Garages and Motor Boat Houses. Compiled by Wm. T. Comstock. Illustrated. Paper boards, 8vo., 121 pp. New York. Wm. T. Comstock Co.

The editor presents a compilation of characteristic types of garages for motor cars and motor boats. He has not limited himself to the suburban or private varieties, but has collected plans and pictures of such buildings used by individuals and firms in the city. The text accompanying these illustrations contains hints for the arrangement and use of the necessary equipment and accessories and also what peculiar regulations of the fire underwriters must be complied with in building.



The House Fly—Disease Carrier. By L. O. Howard, Ph. D. 8vo. Illustrated; 312 pp. New York: Frederick A. Stokes Company; \$1.60 net.

The mere title of this exhaustive treatise is sufficient to give a very good idea of what the book contains. The habits of flies and the great dangers to humanity resulting therefrom are carefully traced out and the conclusions reached are in some cases startling in their importance. Take, for example, the suppositional case of a female fly which on April 15th lays 120 eggs. By a sort of chain-letter method of reproduction the possible number of flies

(Continued on page 74)

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(Continued from page 72)

resulting from these original 120 eggs has mounted by September 10th to the appalling total of 5,598,720,000,000. As the author truly says, "Such figures as these stagger the imagination."

While Mr. Howard, who is Chief of the U. S. Bureau of Entomology, has gone very fully into his subject, he has successfully avoided all technicality of ideas and phraseology that might prove confusing or uninteresting to the non-scientific reader, and with the aid of drawings and some excellent photographs he makes out a very complete case against the fly.

The first part of the book is devoted to habits and methods of breeding; then follow chapters on the carriage of disease by flies, preventive measures, etc.



Our New Home and How We Planned to Build It. By Louise Perrett. Illustrated. Paper boards. Reilly, Briton & Co. \$1.50 postpaid.

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The Practical Flower Garden. By Helena Rutherford Ely. Illustrated. New York: Macmillan Company; \$2.

The Practical Flower Garden Book would seem to be directed toward those who have graduated into well experienced gardeners. For them there are some very practical suggestions that would help in rounding out the garden scheme and developing it toward greater perfection. The chapter on color arrangement of flowers is a help to those who have been experimenting in a small way to plan their garden for color as well as for form. There is also an interesting chapter on the wild garden. The first part of the book, however, would seem to have no unified connection and is simply a collection of articles of various appeal that are placed somewhat as the titles in a volume of essays.

(Continued on page 76)

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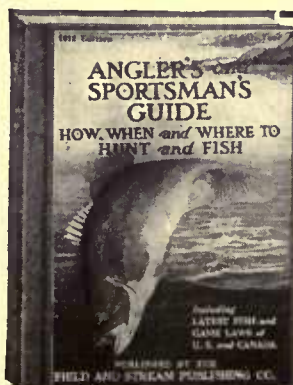
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Garage, Style 1913

(Continued from page 74)

For this reason the book is of not much appeal to the beginner except for the last division of the book entitled "Shrubs, Vines, Plants and Bulbs I have Grown Successfully." This is a little encyclopedia that gives a touch of descriptive cultural decoration and has copious illustrations. It should reinforce the briefer information contained in catalogs.



Nature Sketches in Temperate America. By Joseph Lane Hancock, M. D., F. E. S. Fully illustrated. 8vo. 433 pp. Chicago: A. C. McClurg & Co.; \$2.75 net.

This volume is one of especial value to the average person who is interested in knowing "the why and the wherefore" of many conditions in nature which are often considered as having no particular reason for their existence. It deals chiefly with insects, plants and birds with reference to their evolution and ecological relations, and is illustrated with many drawings and excellent colored photographs by the author. The problems of natural selection and protective coloration are treated at some length and in a manner that is not too scientific to be interesting to the non-technical reader. Numerous personal experiences with familiar objects are used to illustrate the author's statements and suggestions, and the work as a whole can be strongly recommended to those who care to see a little deeper than the mere surface of nature.



The House and Its Equipment. Edited by Lawrence Weaver. Illustrated. Cloth. New York: Chas. Scribner's Sons. (Importation.)

This book is a collection of articles brought together with the following scheme: To secure expert advice on a great diversity of subjects in order to induce the public "to appreciate all questions relating to the house and its equipment, in an architectural spirit." With this in view, then, the book first considers the treatment of various rooms and their characteristic features, such as fireplaces, baths, the design of grand pianos, etc. The last part of the volume is devoted to details and fixtures of the exterior of the house and the garden. The illustrations are of the best and the suggestions contained offer much that is valuable to those concerned in building.



The Practical Book on Oriental Rugs. By G. Griffin Lewis. Illustrated. 8vo. Philadelphia: J. B. Lippincott Company; price, \$4.

Every human seems to be possessed in some way with the collecting fever. From the time of infancy habits of collecting stretch on through the intermediate

(Continued on page 78)



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You see battered Sumter, and the Southerners who had seized it two days before; you see the Union cannon hurling death over the slopes of Antietam; you see McClellan holding his last interview with Lincoln, and Farragut on the Hartford's deck after "Mobile Bay." You see 200,000 men in blue marching through Washington, and for contrast the smoking ruins of Richmond—the crash of the Confederacy.

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REVIEW OF REVIEWS

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(Continued from page 76)

courses of stamp collections and monograms up to furniture and china, pictures and books. In the latter stages of the collection fever it becomes a mania, more important than business or social requirements. But there are some who are sanely interested in collecting, and they are saved this extreme case because a sense of beauty is the factor of choice rather than simply a desire to collect.

The connoisseur belongs to this class. If you have no collecting habits, you may join him by reading G. Griffin Lewis's book on rugs. It is really a considerable undertaking, and without the consideration of the interest it affords, the book might really have a subtitle of "How to be a Rug Connoisseur." It contains information in a systematized form so that the book can be turned to as an encyclopedia. It deals with the whole subject of different sorts; how to tell Oriental rugs by the weaving details and by the designs. A chapter on designs and other symbolisms not only shows the characteristics of rugs for different countries, but it explains the symbolism that lies behind certain combinations.

One consideration of general appeal that the book has is that it is not a discussion of the merits of priceless specimens in museums, but one gets an idea of how to judge, where to look for, and what the price would be of excellent Oriental rugs that may be found in the market today.

The whole topic of rugs is covered carefully and with scientific knowledge, yet one is lead along in fields of exceeding interest and stimulated to ally himself to those who spend some of their time in this diverting field.



Guide to the Mushrooms. By Emma L. Taylor Cole. 16mo. Illustrated; 206 pp. New York: Doubleday, Page & Co.

This is a very practical little book and one which should be of interest and value to those who wish to know the wild mushrooms. The different varieties are described concisely and clearly by means of a key illustrated with fairly good photographs, and in most cases the individual peculiarities which distinguish the edible from the poisonous sorts are presented in a way that leaves small room for doubt in the mind of the ordinarily careful reader.

The first part of the book deals with general matters, such as methods of gathering and cooking mushrooms, when and where the various wild kinds should be sought, etc. Following the key which occupies the greater part of the volume, is a glossary of the technical terms employed. The book as a whole presents a rather attractive appearance, though it is somewhat surprising along about page 154 to find one's self reading under the comprehensive page heading "Wild Flowers East of the Rockies." This printer's error is apologized for on an inserted errata slip.

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